## GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on:

January 21, 2004, 10:47:22; Search time 37 Seconds

(without alignments)

2044.812 Million cell updates/sec

Title:

US-09-674-292-1

Perfect score:

2036

Sequence:

1 MGLWALLPGWVSATLLLALA.....WCCHVSCRNCTHTRVLHECL 370

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched:

762491 segs, 204481190 residues

Total number of hits satisfying chosen parameters:

762491

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

Published Applications AA:\*

- 1: /cgn2 6/ptodata/2/pubpaa/US07 PUBCOMB.pep:\*
- 2: /cgn2 6/ptodata/2/pubpaa/PCT\_NEW\_PUB.pep:\*
- 3: /cgn2 6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep:\*
- 4: /cqn2 6/ptodata/2/pubpaa/US06 PUBCOMB.pep:\*
- 5: /cgn2 6/ptodata/2/pubpaa/US07 NEW PUB.pep:\*
- 6: /cgn2 6/ptodata/2/pubpaa/PCTUS PUBCOMB.pep:\*
- 7: /cgn2\_6/ptodata/2/pubpaa/US08\_NEW\_PUB.pep:\*
- 8: /cgn2\_6/ptodata/2/pubpaa/US08\_PUBCOMB.pep:\*
- 9: /cgn2\_6/ptodata/2/pubpaa/US09A\_PUBCOMB.pep:\*
- 10: /cgn2\_6/ptodata/2/pubpaa/US09B\_PUBCOMB.pep:\*
- 11: /cgn2\_6/ptodata/2/pubpaa/US09C\_PUBCOMB.pep:\*
- 12: /cgn2\_6/ptodata/2/pubpaa/US09\_NEW\_PUB.pep:\*
- 13: /cgn2\_6/ptodata/2/pubpaa/US10A\_PUBCOMB.pep:\*
  14: /cgn2\_6/ptodata/2/pubpaa/US10B\_PUBCOMB.pep:\*
- 15: /cgn2\_6/ptodata/2/pubpaa/US10C PUBCOMB.pep:\*
- 16: /cgn2\_6/ptodata/2/pubpaa/US10\_NEW\_PUB.pep:\*
- 17: /cgn2\_6/ptodata/2/pubpaa/US60\_NEW\_PUB.pep:\*
- 18: /cgn2\_6/ptodata/2/pubpaa/US60\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result

Query

왐

No. Score Match Length DB ID

Description

1	2036 906	100.0	370	12	US-10-285-976-1	Sequence 1, Appli
	906					
2	900	44.5	352	12	US-10-028-248A-71	Sequence 71, Appl
3	843.5	41.4	352	12	US-09-954-342-34	Sequence 34, Appl
4	840.5	41.3	355	12	US-10-285-976-7	Sequence 7, Appli
5	840.5	41.3	355	12	US-09-954-342-36	Sequence 36, Appl
6	840	41.3	351	10	US-09-978-295A-226	Sequence 226, App
7	840	41.3	351	10	US-09-978-697-226	Sequence 226, App
8	840	41.3	351	10	US-09-978-192A-226	Sequence 226, App
9	840	41.3	351	10	US-09-999-832A-226	Sequence 226, App
10	840	41.3	351	11	US-09-978-189-226	Sequence 226, App
11	840	41.3	351	11	US-09-978-608A-226	Sequence 226, App
12	840	41.3	351	11	US-09-978-585A-226	Sequence 226, App
13	840	41.3	351	11	US-09-978-191A-226	Sequence 226, App
14	840	41.3	351	11	US-09-978-403A-226	Sequence 226, App
15	840	41.3	351	11	US-09-978-564A-226	Sequence 226, App
16	840	41.3	351	11	US-09-999-833A-226	Sequence 226, App
17	840	41.3	351	11	US-09-981-915A-226	Sequence 226, App
1.8	840	41.3	351	11	US-09-978-824-226	Sequence 226, App
19	840	41.3	351	11	US-09-918-585A-226	Sequence 226, App
20	840	41.3	351	11	US-09-978-423A-226	Sequence 226, App
21	840	41.3	351	11	US-09-978-193A-226	Sequence 226, App
22	840	41.3	351	11	US-09-999-830A-226	Sequence 226, App
23	840	41.3	351	11	US-09-978-757A-226	Sequence 226, App
24	840	41.3	351	11	US-09-978-187B-226	Sequence 226, App
25	840	41.3	351	11	US-09-978-643A-226	Sequence 226, App
26	840	41.3	351	12	US-09-978-375A-226	Sequence 226, App
27	840	41.3	351	12	US-09-978-188A-226	Sequence 226, App
28	840	41.3	351	12	US-09-978-298A-226	Sequence 226, App
29	840	41.3	351	12	US-10-143-031A-226	Sequence 226, App
30	840	41.3	351	12	US-10-002-967A-226	Sequence 226, App
31	840	41.3	351	12	US-10-017-083A-226	Sequence 226, App
32	840	41.3	351	12	US-10-143-030A-226	Sequence 226, App
33	840	41.3	351	12	US-10-199-672-80	Sequence 80, Appl
34	840	41.3	351	12	US-10-187-749-80	Sequence 80, Appl
35	840	41.3	351	12	US-10-194-457-80	Sequence 80, Appl
36	840	41.3	351	12	US-10-145-128A-226	Sequence 226, App
37	840	41.3	351	12	US-10-184-642-80	Sequence 80, Appl
38	840	41.3	351	12	US-10-196-747-80	Sequence 80, Appl
39	840	41.3	351	12	US-10-173-689-80	Sequence 80, Appl
40	840	41.3	351	12	US-10-173-690-80	Sequence 80, Appl
41	840	41.3	351	12	US-10-173-691-80	Sequence 80, Appl
42	840	41.3	351	12	US-10-173-692-80	Sequence 80, Appl
43	840	41.3	351	12	US-10-173-694-80	Sequence 80, Appl
44 45	840 840	41.3	351	12	US-10-173-698-80	Sequence 80, Appl
4:3	840	41.3	35 <u>1</u>	12	US-10-173-699-80	Sequence 80, Appl

## ALIGNMENTS

## RESULT 1

US-10-285-976-1

<sup>;</sup> Sequence 1, Application US/10285976

<sup>;</sup> Publication No. US20030165500A1

<sup>;</sup> GENERAL INFORMATION:

<sup>;</sup> APPLICANT: Rhee, Chae-Seo

```
APPLICANT:
           Malini, Sen
  APPLICANT:
            Wu, Christina
  APPLICANT:
            Leoni, Lorenzo M.
  APPLICANT:
            Corr, Maripat
  APPLICANT:
            Carson, Dennis A.
  APPLICANT:
            The Regents of the University of California
  TITLE OF INVENTION: Wnt and Frizzled Receptors as Targets for Immunotherapy
  TITLE OF INVENTION: in Head and Neck Squamous Cell Carcinomas
  FILE REFERENCE: 023070-130320US
  CURRENT APPLICATION NUMBER: US/10/285,976
  CURRENT FILING DATE: 2002-11-01
  PRIOR APPLICATION NUMBER: US 60/287,995
  PRIOR FILING DATE: 2001-05-01
  PRIOR APPLICATION NUMBER: WO PCT/US02/13802
  PRIOR FILING DATE: 2002-05-01
  NUMBER OF SEQ ID NOS: 232
  SOFTWARE: PatentIn Ver. 2.1
 SEQ ID NO 1
   LENGTH: 370
   TYPE: PRT
   ORGANISM: Homo sapiens
   FEATURE:
   OTHER INFORMATION: human Wnt-1
US-10-285-976-1
                     100.0%; Score 2036; DB 12; Length 370;
 Query Match
 Best Local Similarity 100.0%; Pred. No. 2.3e-187;
 Matches 370; Conservative
                           0; Mismatches
                                          0; Indels
                                                         Gaps
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qу
            1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Db
         61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Qу
            61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
        121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Qу
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Db
        181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Qу
            181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Db
        241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Qу
            241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Db
        301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Qу
            301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Db
        361 THTRVLHECL 370
Qу
            Db
        361 THTRVLHECL 370
```

```
US-10-028-248A-71
; Sequence 71, Application US/10028248A
; Publication No. US20030235882A1
; GENERAL INFORMATION:
  APPLICANT: Shimkets, Richard
  APPLICANT: Patturajan, Meera
   APPLICANT: Vernet, Corine
  APPLICANT:
              Casman, Stacie
  APPLICANT:
               Malyankar, Uriel
   APPLICANT:
               Shenoy, Suresh
              Spytek, Kimberly
   APPLICANT:
  APPLICANT: Gangolli, Esha
  APPLICANT: Miller, Charles
  APPLICANT: Boldog, Ferenc
  APPLICANT: Li, Li
  APPLICANT:
               Taupier Jr, Raymond J
  APPLICANT:
              Kekuda, Ramesh
              Smithson, Glennda
  APPLICANT:
               Zerhusen, Bryan
  APPLICANT:
              Liu, Xiaohong
  APPLICANT:
  APPLICANT:
              Colman, Steven
              Tchernev, Velizar
  APPLICANT:
  APPLICANT: Si, Jingsheng
  APPLICANT: Edinger, Shlomit
  APPLICANT:
              Stone, David
  APPLICANT:
               Sciore, Paul
              Millet, Isabelle
  APPLICANT:
  APPLICANT: Rothenberg, Mark
  TITLE OF INVENTION: No. US20030235882A1el Nucleic Acids and Polypeptides and
Methods of Use
  TITLE OF INVENTION: Thereof
  FILE REFERENCE: 21402-222
  CURRENT APPLICATION NUMBER: US/10/028,248A
  CURRENT FILING DATE: 2001-12-19
  PRIOR APPLICATION NUMBER: 60/256619
  PRIOR FILING DATE: 2000-12-19
  PRIOR APPLICATION NUMBER: 60/262959
  PRIOR FILING DATE: 2001-01-19
  PRIOR APPLICATION NUMBER: 60/272408
  PRIOR FILING DATE: 2001-02-28
  PRIOR APPLICATION NUMBER: 60/285189
  PRIOR FILING DATE: 2001-04-20
  PRIOR APPLICATION NUMBER: 60/308039
  PRIOR FILING DATE: 2001-07-26
  PRIOR APPLICATION NUMBER: 60/311266
  PRIOR FILING DATE: 2001-08-09
  NUMBER OF SEQ ID NOS: 211
  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 71
   LENGTH: 352
   TYPE: PRT
   ORGANISM: Artificial Sequence
   OTHER INFORMATION: Description of Artificial Sequence: WNT domain
   OTHER INFORMATION: sequence
```

RESULT 2

```
US-10-028-248A-71
 Query Match
                    44.5%; Score 906; DB 12; Length 352;
 Best Local Similarity 50.1%; Pred. No. 1.2e-78;
 Matches 175; Conservative 51; Mismatches 83; Indels
                                                 40; Gaps
                                                          10:
Qу
        60 SLQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPH---LFGKI 116
          Db
         4 SLPGLSPRQRQLCRRNPDVMASVSEGAQLAIQECQHQFRGRRWNCSTLDSLNERSVFGKV 63
       117 VNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRR------RGPGGP 163
Qу
           Db
        64 LKKGTRETAFVYAISSAGVAHAVTRACSEGELESCGCDDKRKADEERLRIKLEPKGPGGP 123
       164 --DWHWGGCSDNIDFGRLFGREFVDSGE-----KGRDLRFLMNLHNNEAGRTTVFSE 213
Qу
             124 QGSWKWGGCSDNVEFGIRFSREFVDAREREKLMTKSRDRDARSLMNLHNNEAGRKAVKSH 183
Db
Qу
       214 MRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNR---ASRAE 270
          184 MRRECKCHGVSGSCSLKTCWLSLPDFREVGDLLKEKYDGAIEVEVNKRGKGQRSLSSRKQ 243
Db
       271 LLRLEPEDPAHKPPSPH---DLVYFEKSPNFCTYSGRLGTAGRACNSSSPAL---DG 324
QУ
             Db
       244 ASALEAANERFKKPTRNQYTDLVYLEKSPDYCERDRETGSLGTQGRVCNKTSKGLQWRDG 303
       325 CELLCCGRGHRTRTQRV--TERCNCTFH--WCCHVSCRNCTHTRVLHEC 369
Qу
          Dh
       304 CELLCCGRGYNTE-QKVERTEKCNCKFHNGWCCYVKCEECTEVVEVHTC 351
RESULT 3
US-09-954-342-34
; Sequence 34, Application US/09954342
 APPLICANT: SPYTEK, KIMBERLY ANN
 APPLICANT: TAUPIER, RAYMOND J.
```

```
; Publication No. US20030170838A1
; GENERAL INFORMATION:
; APPLICANT: MISHRA, VISHNU S.
  APPLICANT: VERNET, CORINE A.
  APPLICANT: COLMAN, STEVEN D.
  APPLICANT: GORMAN, LINDA
  APPLICANT: TCHERNEV, VELIZAR T.
  APPLICANT: MALYANKAR, URIEL M.
  APPLICANT: SHENOY, SURESH
  APPLICANT: PADIGARU, MURALIDHARA
  APPLICANT: GERLACH, VALERIE L.
  APPLICANT: MACDOUGALL, JOHN R.
  APPLICANT: SMITHSON, GLENNDA
  APPLICANT: MILLET, ISABELLE
  APPLICANT: PEYMAN, JOHN
  APPLICANT: STONE, DAVID
```

APPLICANT: GUNTHER, ERIK APPLICANT: ELLERMAN, KAREN

APPLICANT: ZERHUSEN, BRYAN

RASTELLI, LUCA

APPLICANT: LI, LI

APPLICANT:

```
TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES AND POLYPEPTIDES ENCODED THEREBY
  FILE REFERENCE: 21402-114
  CURRENT APPLICATION NUMBER: US/09/954,342
  CURRENT FILING DATE: 2001-09-17
  PRIOR APPLICATION NUMBER: 60/233,382
  PRIOR FILING DATE: 2000-09-18
   PRIOR APPLICATION NUMBER: 60/240,498
  PRIOR FILING DATE: 2000-10-13
  PRIOR APPLICATION NUMBER: 60/260,284
   PRIOR FILING DATE: 2001-01-08
   PRIOR APPLICATION NUMBER: 60/260,973
   PRIOR FILING DATE: 2001-01-11
  PRIOR APPLICATION NUMBER: 60/264,794
  PRIOR FILING DATE: 2001-01-29
   PRIOR APPLICATION NUMBER: 60/238,398
  PRIOR FILING DATE: 2000-10-06
  PRIOR APPLICATION NUMBER: 60/232,675
   PRIOR FILING DATE: 2000-09-15
   PRIOR APPLICATION NUMBER: 60/274,862
   PRIOR FILING DATE: 2001-03-09
  PRIOR APPLICATION NUMBER: 60/233,801
  PRIOR FILING DATE: 2000-09-19
  PRIOR APPLICATION NUMBER: 60/232,676
  PRIOR FILING DATE: 2000-09-15
  PRIOR APPLICATION NUMBER: 60/233,960
  PRIOR FILING DATE: 2000-09-20
  PRIOR APPLICATION NUMBER: 60/233,402
  PRIOR FILING DATE: 2000-09-18
  PRIOR APPLICATION NUMBER: 60/233,521
  PRIOR FILING DATE: 2000-09-19
  PRIOR APPLICATION NUMBER: 60/233,522
  PRIOR FILING DATE: 2000-09-19
  PRIOR APPLICATION NUMBER: 60/232,679
  PRIOR FILING DATE: 2000-09-15
  NUMBER OF SEQ ID NOS: 104
  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 34
   LENGTH: 352
   TYPE: PRT
   ORGANISM: Mus musculus
US-09-954-342-34
 Query Match
                       41.4%; Score 843.5; DB 12; Length 352;
 Best Local Similarity 45.4%; Pred. No. 1.2e-72;
 Matches 161; Conservative 53; Mismatches 130; Indels
                                                          11; Gaps
          16 LLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQN 75
Qу
            Db
           7 LLVLCSLKQAL--GSYPIWWSLAVGPQYSSL----STQPILCASIPGLVPKQLRFCRNY 59
          76 PGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAG 134
Qу
              Db
          60 VEIMPSVAEGVKAGIQECQHQFRGRRWNCTTVSNSLAIFGPVLDKATRESAFVHAIASAG 119
         135 VTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDL 194
Qу
            Db
         120 VAFAVTRSCAEGSAAICGCSSRLQGSPGEGWKWGGCSEDIEFGGMVSREFADARENRPDA 179
```

```
195 RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGAS 254
Qу
               180 RSAMNRHNNEAGRQAIASHMHLKCKCHGLSGSCEVKTCWWSQPDFRTIGDFLKDKYDSAS 239
Db
         255 RVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRA 314
QУ
                     Db
         240 EMVV---EKHRESRGWVETLRPRYTYFKVPTERDLVYYEASPNFCEPNPETGSFGTRDRT 296
         315 CNSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
             Db
         297 CNVSSHGIDGCDLLCCGRGHNARTERRREKCHCVFHWCCYVSCQECTRVYDVHTC 351
RESULT 4
US-10-285-976-7
; Sequence 7, Application US/10285976
 Publication No. US20030165500A1
; GENERAL INFORMATION:
  APPLICANT: Rhee, Chae-Seo
  APPLICANT: Malini, Sen
  APPLICANT: Wu, Christina
  APPLICANT: Leoni, Lorenzo M.
  APPLICANT: Corr, Maripat
  APPLICANT:
             Carson, Dennis A.
   APPLICANT: The Regents of the University of California
  TITLE OF INVENTION: Wnt and Frizzled Receptors as Targets for Immunotherapy
  TITLE OF INVENTION: in Head and Neck Squamous Cell Carcinomas
  FILE REFERENCE: 023070-130320US
  CURRENT APPLICATION NUMBER: US/10/285,976
  CURRENT FILING DATE: 2002-11-01
  PRIOR APPLICATION NUMBER: US 60/287,995
  PRIOR FILING DATE: 2001-05-01
  PRIOR APPLICATION NUMBER: WO PCT/US02/13802
  PRIOR FILING DATE: 2002-05-01
  NUMBER OF SEQ ID NOS: 232
  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 7
   LENGTH: 355
   TYPE: PRT
   ORGANISM: Homo sapiens
   FEATURE:
   O'THER INFORMATION: human Wnt-3
US-10-285-976-7
 Query Match
                       41.3%; Score 840.5; DB 12; Length 355;
 Best Local Similarity 46.0%; Pred. No. 2.4e-72;
 Matches 155; Conservative 52; Mismatches 121;
                                                  Indels
          34 WWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVREC 93
Qу
                              |: ||: |:: ::||
Db
          26 WWSLALGQQYTSL-----GSQPLLCGSIPGLVPKQLRFCRNYIEIMPSVAEGVKLGIQEC 80
          94 KWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCT 152
Qу
                             :|| :::: ||:||: || |||| :| |||:||:
Db
          81 QHQFRGRRWNCTTIDDSLAIFGPVLDKATRESAFVHAIASAGVAFAVTRSCAEGTSTICG 140
```

```
153 CDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
Qу
                 141 CDSHHKGPPGEGWKWGGCSEDADFGVLVSREFADARENRPDARSAMNKHNNEAGRTTILD 200
Db
         213 EMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
Qу
              201 HMHLKCKCHGLSGSCEVKTCWWAQPDFRAIGDFLKDKYDSASEMVV---EKHRESRGWVE 257
         273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
Qу
                     Db
         258 TLRAKYSLFKPPTERDLVYYENSPNFCEPNPETGSFGTRDRTCNVTSHGIDGCDLLCCGR 317
         333 GHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
             : | |
Db
         318 GHNTRTEKRKEKCHCIFHWCCYVSCQECIRIYDVHTC 354
RESULT 5
US-09-954-342-36
; Sequence 36, Application US/09954342
; Publication No. US20030170838A1
 GENERAL INFORMATION:
  APPLICANT: MISHRA, VISHNU S.
  APPLICANT: SPYTEK, KIMBERLY ANN
             TAUPIER, RAYMOND J.
  APPLICANT:
  APPLICANT:
             VERNET, CORINE A.
  APPLICANT: COLMAN, STEVEN D.
  APPLICANT:
             GORMAN, LINDA
  APPLICANT:
             TCHERNEV, VELIZAR T.
  APPLICANT:
             MALYANKAR, URIEL M.
  APPLICANT: SHENOY, SURESH
  APPLICANT: PADIGARU, MURALIDHARA
  APPLICANT: GERLACH, VALERIE L.
  APPLICANT: MACDOUGALL, JOHN R.
  APPLICANT: SMITHSON, GLENNDA
  APPLICANT: MILLET, ISABELLE
  APPLICANT: PEYMAN, JOHN
  APPLICANT: STONE, DAVID
  APPLICANT: GUNTHER, ERIK
  APPLICANT:
             ELLERMAN, KAREN
  APPLICANT:
             LI, LI
  APPLICANT:
             RASTELLI, LUCA
  APPLICANT:
             ZERHUSEN, BRYAN
  TITLE OF INVENTION: NOVEL POLYNUCLEOTIDES AND POLYPEPTIDES ENCODED THEREBY
  FILE REFERENCE: 21402-114
  CURRENT APPLICATION NUMBER: US/09/954,342
  CURRENT FILING DATE: 2001-09-17
  PRIOR APPLICATION NUMBER: 60/233,382
  PRIOR FILING DATE: 2000-09-18
  PRIOR APPLICATION NUMBER: 60/240,498
  PRIOR FILING DATE: 2000-10-13
  PRIOR APPLICATION NUMBER: 60/260,284
  PRIOR FILING DATE: 2001-01-08
  PRIOR APPLICATION NUMBER: 60/260,973
  PRIOR FILING DATE: 2001-01-11
  PRIOR APPLICATION NUMBER: 60/264,794
```

PRIOR FILING DATE: 2001-01-29

```
PRIOR APPLICATION NUMBER: 60/238,398
  PRIOR FILING DATE: 2000-10-06
  PRIOR APPLICATION NUMBER: 60/232,675
  PRIOR FILING DATE: 2000-09-15
  PRIOR APPLICATION NUMBER: 60/274,862
  PRIOR FILING DATE: 2001-03-09
  PRIOR APPLICATION NUMBER: 60/233,801
  PRIOR FILING DATE: 2000-09-19
  PRIOR APPLICATION NUMBER: 60/232,676
  PRIOR FILING DATE: 2000-09-15
  PRIOR APPLICATION NUMBER: 60/233,960
  PRIOR FILING DATE: 2000-09-20
  PRIOR APPLICATION NUMBER: 60/233,402
  PRIOR FILING DATE: 2000-09-18
  PRIOR APPLICATION NUMBER: 60/233,521
  PRIOR FILING DATE: 2000-09-19
  PRIOR APPLICATION NUMBER: 60/233,522
  PRIOR FILING DATE: 2000-09-19
  PRIOR APPLICATION NUMBER: 60/232,679
  PRIOR FILING DATE: 2000-09-15
  NUMBER OF SEQ ID NOS: 104
  SOFTWARE: PatentIn Ver. 2.1
 SEO ID NO 36
   LENGTH: 355
   TYPE: PRT
   ORGANISM: Homo sapiens
US-09-954-342-36
                       41.3%; Score 840.5; DB 12; Length 355;
 Query Match
                      46.0%; Pred. No. 2.4e-72;
 Best Local Similarity
 Matches 155; Conservative 52; Mismatches 121; Indels
         34 WWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVREC 93
Qу
                              26 WWSLALGQQYTSL----GSQPLLCGSIPGLVPKQLRFCRNYIEIMPSVAEGVKLGIQEC 80
Db
          94 KWOFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCT 152
Qу
                             81 QHQFRGRRWNCTTIDDSLAIFGPVLDKATRESAFVHAIASAGVAFAVTRSCAEGTSTICG 140
ď
        153 CDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
Ov
                141 CDSHHKGPPGEGWKWGGCSEDADFGVLVSREFADARENRPDARSAMNKHNNEAGRTTILD 200
Db
        213 EMROECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
Qу
             201 HMHLKCKCHGLSGSCEVKTCWWAQPDFRAIGDFLKDKYDSASEMVV---EKHRESRGWVE 257.
Db
        273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
Qy
                    258 TLRAKYSLFKPPTERDLVYYENSPNFCEPNPETGSFGTRDRTCNVTSHGIDGCDLLCCGR 317
Db
        333 GHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qy
            : | |
        318 GHNTRTEKRKEKCHCIFHWCCYVSCQECIRIYDVHTC 354
Dh
```

```
RESULT 6
US-09-978-295A-226
; Sequence 226, Application US/09978295A
; Patent No. US20020156006A1
 GENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT:
               Baker Kevin P.
  APPLICANT:
               Botstein, David
  APPLICANT:
               Desnoyers, Luc
   APPLICANT:
               Eaton, Dan
   APPLICANT:
               Ferrara, Napoleon
   APPLICANT:
               Filvaroff, Ellen
               Fong, Sherman
  APPLICANT:
               Gao, Wei-Qiang
   APPLICANT:
   APPLICANT:
               Gerber, Hanspeter
               Gerritsen, Mary E.
  APPLICANT:
   APPLICANT:
               Goddard, Audrey
   APPLICANT:
               Godowski, Paul J.
  APPLICANT:
               Grimaldi, J. Christopher
  APPLICANT:
               Gurney, Austin L.
               Hillan, Kenneth J
   APPLICANT:
   APPLICANT:
               Kljavin, Ivar J.
  APPLICANT:
               Kuo, Sophia S.
  APPLICANT:
               Napier, Mary A.
  APPLICANT:
               Pan, James;
  APPLICANT:
               Paoni, Nicholas F.
  APPLICANT:
               Roy, Margaret Ann
               Shelton, David L.
  APPLICANT:
  APPLICANT:
               Stewart, Timothy A. :
  APPLICANT:
               Tumas, Daniel
  APPLICANT:
               Williams, P. Mickey
  APPLICANT:
               Wood, William I.
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
  TITLE OF INVENTION: Acids Encoding the Same
  FILE REFERENCE: P2630P1C11
  CURRENT APPLICATION NUMBER: US/09/978,295A
  CURRENT FILING DATE: 2001-10-15
  PRIOR APPLICATION NUMBER: 09/918585
  PRIOR FILING DATE: 2001-07-30
  PRIOR APPLICATION NUMBER: 60/062250
  PRIOR FILING DATE: 1997-10-17
  PRIOR APPLICATION NUMBER: 60/064249
  PRIOR FILING DATE: 1997-11-03
  PRIOR APPLICATION NUMBER: 60/065311
  PRIOR FILING DATE: 1997-11-13
  PRIOR APPLICATION NUMBER: 60/066364
  PRIOR FILING DATE: 1997-11-21
  PRIOR APPLICATION NUMBER: 60/077450
  PRIOR FILING DATE: 1998-03-10
  PRIOR APPLICATION NUMBER: 60/077632
  PRIOR FILING DATE: 1998-03-11
  PRIOR APPLICATION NUMBER - 60/077641
  PRIOR FILING DATE: 1998-03-11
  PRIOR APPLICATION NUMBER: 60/077649
  PRIOR FILING DATE: 1998-03-11
  PRIOR APPLICATION NUMBER: 60/077791
```

PRIOR FILING DATE: 1998-03-12

```
PRIOR APPLICATION NUMBER: 60/078004
PRIOR FILING DATE: 1998-03-13
PRIOR APPLICATION NUMBER: 60/078886
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 60/079656
PRIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079920
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/079923
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/080105
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080328
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080333
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
FRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081203
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081229
PRIOR FILING DATE: 1998-04-09
```

```
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081817
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
FRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082804
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082700
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082797
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082796
PRIOR FILING DATE: 1998-04-23
PRIOR APPLICATION NUMBER: 60/083336
PRIOR FILING DATE: 1998-04-27
PRIOR APPLICATION NUMBER: 60/083322
PRIOR FILING DATE: 1998-04-28
PRIOR APPLICATION NUMBER: 60/083392
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083495
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083496
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083499
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083545
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083554
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083558
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083559
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083500
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083742
PRIOR FILING DATE: 1998-04-30
PRIOR APPLICATION NUMBER: 60/084366
PRIOR FILING DATE: 1998-05-05
PRIOR APPLICATION NUMBER: 60/084414
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: 60/084441
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: 60/084637
PRIOR FILING DATE: 1998-05-07
PRIOR APPLICATION NUMBER: 60/084639
```

PRIOR FILING DATE: 1998-05-07

```
PRIOR APPLICATION NUMBER: 60/084640
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084598
   PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084600
  PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084627
   PRIOR FILING DATE: T998-05-07
   PRIOR APPLICATION NUMBER: 60/084643
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/085339
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085338
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085323
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085582
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085700
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085689
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085579
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085580
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 50/085573
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085704
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085697
                         41.3%; Score 840; DB 10;
                                                    Length 351;
  Query Match
                        44.8%; Pred. No. 2.7e-72;
  Best Local Similarity
                             55; Mismatches 123; Indels
                                                              20;
                                                                   Gaps
  Matches 161; Conservative
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qy
             : | | : |: : | |: |
                                 | : | | ::: :: :
                                                          |: | ::| :: :
           9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Db
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qу
             :|||:| :| || || ||::||:||
          59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Qv
                                           : | ||||| :| | : ||| | : :
              119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db.
         193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Ov
                 |:::|
         179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
QY
                                    1 | : || : || || || || || || ||
              |||: |
                        |\cdot|:|\cdot|
          239 DGATEVEPRRVGSSRA-----LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
         311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
```

```
RESULT 7
US-09-978-697-226
; Sequence 226, Application US/09978697
 Patent No. US20020169284A1
 GENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT: Baker Kevin P.
              Botstein, David
  APPLICANT:
  APPLICANT: Desnoyers, Luc
  APPLICANT:
              Eaton, Dan
              Ferrara, Napoleon
  APPLICANT:
              Filvaroff, Ellen
  APPLICANT:
              Fong, Sherman
  APPLICANT:
  APPLICANT: Gao, Wei-Qiang
              Gerber, Hanspeter
  APPLICANT:
  APPLICANT: Gerritsen, Mary E.
  APPLICANT: Goddard, Audrey
  APPLICANT: Godowski, Paul J.
  APPLICANT: Grimaldi, J. Christopher
   APPLICANT:
              Gurney, Austin L.
   APPLICANT:
              Hillan, Kenneth J
              Kljavin, Ivar J.
   APPLICANT:
              Kuo, Sophia S.
  APPLICANT:
              Napier, Mary A.
   APPLICANT:
               Pan, James;
  APPLICANT:
              Paoni, Nicholas F.
   APPLICANT:
              Roy, Margaret Ann
  APPLICANT:
              Shelton, David L.
   APPLICANT:
              Stewart, Timothy A.
   APPLICANT:
              Tumas, Daniel
  APPLICANT:
              Williams, P. Mickey
  APPLICANT:
              Wood, William I.
   APPLICANT:
   TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
   TITLE OF INVENTION: Acids Encoding the Same
   FILE REFERENCE: P2630P1C27
   CURRENT APPLICATION NUMBER: US/09/978,697
   CURRENT FILING DATE: 2001-10-16
   PRIOR APPLICATION NUMBER: 09/918585
   PRIOR FILING DATE: 2001-07-30
   PRIOR APPLICATION NUMBER: 60/062250
   PRIOR FILING DATE: 1997-10-17
   PRIOR APPLICATION NUMBER: 60/064249
   PRIOR FILING DATE: 1997-11-03
   PRIOR APPLICATION NUMBER: 60/065311
   PRIOR FILING DATE: 1997-11-13
   PRIOR APPLICATION NUMBER: 60/066364
   PRIOR FILING DATE: 1997-11-21
   PRIOR APPLICATION NUMBER: 60/077450
   PRIOR FILING DATE: 1998-03-10
  PRIOR APPLICATION NUMBER: 60/077632
   PRIOR FILING DATE: 1998-03-11
```

PRIOR FILING DATE: 1998-03-11

```
PRIOR APPLICATION NUMBER: 60/077649
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077791
PRIOR FILING DATE: 1998-03-12
PRIOR APPLICATION NUMBER: 60/078004
FRIOR FILING DATE: 1998-03-13
PRIOR APPLICATION NUMBER: 60/078886
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 60/079656
PRIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079920
PRIOR FILING DATE: 1998-03:30
PRIOR APPLICATION NUMBER: 60/079923
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/080105
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080328
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080333
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081203
```

```
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081229
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081955
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081817
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082804
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082700
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082797
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082796
PRIOR FILING DATE: 1998-04-23
PRIOR APPLICATION NUMBER: 60/083336
PRIOR FILING DATE: 1998-04-27
PRIOR APPLICATION NUMBER: 60/083322
PRIOR FILING DATE: 1998-94-28
PRIOR APPLICATION NUMBER: 60/083392
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083495
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083496
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083499
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083545
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083554
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083558
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 50/083559
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083500
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083742
PRIOR FILING DATE: 1998-04-30
PRIOR APPLICATION NUMBER: 60/084366
PRIOR FILING DATE: 1998-05-05
PRIOR APPLICATION NUMBER: 60/084414
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: 60/084441
```

PRIOR FILING DATE: 1998-05-06

```
PRIOR APPLICATION NUMBER: 60/084637
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084639
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084640
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084598
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084600
   PRIOR FILING DATE: 1998-5-07
   PRIOR APPLICATION NUMBER: 60/084627
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084643
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/085339
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085338
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085323
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085582
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 50/085700
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085689
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085579
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085580
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085573
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085704
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085697
  Query Match
                       41.3%;
                              Score 840; DB 10; Length 351;
 Best Local Similarity 44.8%; Pred. No. 2.7e-72;
 Matches 161; Conservative 55; Mismatches 123; Indels
                                                          20;
                                                              Gaps
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qy
            9. SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58

§4 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133°

ÇУ
            :|||:||:||
          59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
QУ
            119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
         1.93 --DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qy
                179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310-
Qy-
```

```
|||:||
                       Dр
         239 DGATEVEPRRVGSSRA-----LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Qу
         311 AGRACNSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
              292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
RESULT 8
US-09-978-192A-226
; Sequence 226, Application US/09978192A
; Patent No. US20020177553A1
 CENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT: Baker Kevin P.
  APPLICANT:
             Botstein, David
  APPLICANT:
             Desnoyers, Luc
  APPLICANT: Eaton, Dan
  APPLICANT: Ferrara, Napoleon
  APPLICANT: Filvaroff, Ellen
  APPLICANT: Fong, Sherman
  APPLICANT:
             Gao, Wei-Qiang
             Gerber, Hanspeter
  APPLICANT:
  APPLICANT:
             Gerritsen, Mary E.
  APPLICANT:
             Goddard, Audrey
             Godowski, Paul J.
  APPLICANT:
  APPLICANT:
             Grimaldi, J. Christopher
  APPLICANT:
             Gurney, Austin L.
  APPLICANT: Hillan, Kenneth J
  APPLICANT: Kljavin, Ivar J.
  APPLICANT:
             Kuo, Sophia S.
  APPLICANT:
             Napier, Mary A.
  APPLICANT:
             Pan, James;
             Paoni, Nicholas F:
  APPLICANT:
  APPLICANT: Roy, Margaret Ann
  APPLICANΓ:
             Shelton, David L.
  APPLICANT: Stewart, Timothy A.
  APPLICANT: Tumas, Daniel
  APPLICANT: Williams, P. Mickey
  APPLICANT:
             Wood, William I.
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
  TITLE OF INVENTION: Acids Encoding the Same
  FILE REFERENCE: P2630P1C9
  CURRENT APPLICATION NUMBER: US/09/978,192A
  CURRENT FILING DATE: 2001-10-15
  PRIOR APPLICATION NUMBER: 09/918585
  PRIOR FILING DATE: 2001-07-30
  PRIOR APPLICATION NUMBER: 60/062250
  PRIOR FILING DATE: 1997-10-17
  PRIOR APPLICATION NUMBER: 60/064249
  PRIOR FILING DATE: 1997-11-03
  PRIOR APPLICATION NUMBER: 60/065311
  PRIOR FILING DATE: 1997-11-13
  PRIOR APPLICATION NUMBER: 60/066364
  PRIOR FILING DATE: 1997-11-21
  PRIOR APPLICATION NUMBER: 60/077450
```

PRIOR FILING DATE: 1998-03-10

```
PRIOR APPLICATION NUMBER: 60/077632
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077641
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077649
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077791
PRIOR FILING DATE: 1998-03-12
PRIOR APPLICATION NUMBER: 60/078004
PRIOR FILING DATE: 1998-03-13
PRIOR APPLICATION NUMBER: 60/078886
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 60/079656
PRIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 50/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 50/079920
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/079923
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/080105
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080328
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080333
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
FRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
```

```
PRIOR FILING DATE: 1998-04-08
  PRIOR APPLICATION NUMBER: 60/081195
  PRIOR FILING DATE: 1998-04-08
  PRIOR APPLICATION NUMBER: 60/081203
  PRIOR FILING DATE: 1998-04-09
  PRIOR APPLICATION NUMBER: 60/081229
  PRIOR FILING DATE: 1998-04-09
;
  PRIOR APPLICATION NUMBER: 60/081955
  PRIOR FILING DATE: 1998-04-15
   PRIOR APPLICATION NUMBER: 60/081817
   PRIOR FILING DATE: 1998-04-15
  PRIOR APPLICATION NUMBER: 60/081819
  PRIOR FILING DATE: 1998-04-15
   PRIOR APPLICATION NUMBER: 60/081952
   PRIOR FILING DATE: 1998-04-15
   PRIOR APPLICATION NUMBER: 60/081838
   PRIOR FILING DATE: 1998-04-15
   PRIOR APPLICATION NUMBER: 60/082568
  PRIOR FILING DATE: 1998-04-21
   PRIOR APPLICATION NUMBER: 60/082569
   PRIOR FILING DATE: 1998-04-21
   PRIOR APPLICATION NUMBER: 60/082704
   PRIOR FILING DATE: 1998-04-22
   PRIOR APPLICATION NUMBER: 60/082804
   PRIOR FILING DATE: 1998-04-22
   PRIOR APPLICATION NUMBER: 60/082700
   PRIOR FILING DATE: 1998-04-22
   FRIOR APPLICATION NUMBER: 60/082797
   PRIOR FILING DATE: 1998-04-22
   PRIOR APPLICATION NUMBER: 60/082796
   PRIOR FILING DATE: 1998-04-23
   PRIOR APPLICATION NUMBER: 60/083336
   PRIOR FILING DATE: 1998-04-27
   PRIOR APPLICATION NUMBER: 50/083322
   PRIOR FILING DATE: 1998-04-28
   PRIOR APPLICATION NUMBER: 60/083392
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083495
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083496
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083499
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083545
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083554
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083558
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083559
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083500
   PRIOR FILING DATE: 1998-04-29
   PRIOR APPLICATION NUMBER: 60/083742
   PRIOR FILING DATE: 1998-04-30
   PRIOR APPLICATION NUMBER: 60/084366
   PRIOR FILING DATE: 1998-05-05
```

```
PRIOR APPLICATION NUMBER: 60/084414
  PRIOR FILING DATE: 1998-05-06
  PRIOR APPLICATION NUMBER: 60/084441
  PRIOR FILING DATE: 1998-05-06
  PRIOR APPLICATION NUMBER: 60/084637
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084639
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084640
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084598
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084600
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084627
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084643
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/085339
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085338
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085323
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085582
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085700
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085689
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085579
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085580
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085573
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085704
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085697
                                Score 840; DB 10;
                                                    Length 351;
                         41.38;
 Query Match
                        44.8%; Pred. No. 2.7e-72;
 Best Local Similarity
                              55; Mismatches 123; Indels
 Matches 161; Conservative
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
QУ
                                                          | : | ::| :: :
                                | : || ::::::
             :| | : |: :| |:|
           9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Db
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
QУ
                :: || | | |: ||::||||||||
                                                  :|||:||:||||||||
          59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
ďŒ
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Qу
             119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
         193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qy
```

```
179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPFFROVGHALKEKF 238
Db
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Qy
                                  |\cdot|\cdot|\cdot|
             111: 1
         239 DGATEVEPRRVGSSRA------LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
         311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
              292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
RESULT 9
US-09-999-832A-226
; Sequence 226, Application US/09999832A
 Publication No. US20020192706A1
 GENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT: Baker Kevin P.
             Botstein, David
  APPLICANT:
              Desnoyers, Luc
  APPLICANT:
  APPLICANT:
             Eaton, Dan
              Ferrara, Napoleon
  APPLICANT:
              Filvaroff, Ellen
  APPLICANT:
              Fong, Sherman
  APPLICANT:
              Gao, Wei-Qiang
  APPLICANT:
  APPLICANT:
              Gerber, Hanspeter
              Gerritsen, Mary E.
  APPLICANT:
  APPLICANT:
              Goddard, Audrey
  APPLICANT:
              Godowski, Paul J.
              Grimaldi, J. Christopher
  APPLICANT:
              Gurney, Austin L.
  APPLICANT:
              Hillan, Kenneth J
  APPLICANT:
              Kljavin, Ivar J.
  APPLICANT:
             Kuo, Sophia S.
  APPLICANT:
  APPLICANT:
             Napier, Mary A.
  APPLICANT: Pan, James;
              Pacni, Nicholas F.
  APPLICANT:
              Roy, Margaret Ann
  APPLICANT:
              Shelton, David L.
  APPLICANT:
  APPLICANT:
              Stewart, Timothy A.
              Tumas, Daniel
  APPLICANT:
  APPLICANT:
              Williams, P. Mickey
              Wood, William I.
  APPLICANT:
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
  TITLE OF INVENTION: Acids Encoding the Same
  FILE REFERENCE: P2630P1C63
  CURRENT APPLICATION NUMBER: US/09/999,832A
  CURRENT FILING DATE: 2001-10-24
  PRIOR APPLICATION NUMBER: 09/918585
  PRIOR FILING DATE: 2001-07-30
  PRIOR APPLICATION NUMBER: 60/062250
  PRIOR FILING DATE: 1997-10-17
  PRIOR APPLICATION NUMBER: 60/064249
  PRIOR FILING DATE: 1997-11-03
  PRIOR APPLICATION NUMBER: 60/065311
```

PRIOR FILING DATE: 1997-11-13

```
PRIOR APPLICATION NUMBER: 60/066364
PRIOR FILING DATE: 1997-11-21
PRIOR APPLICATION NUMBER: 60/077450
PRIOR FILING DATE: 1998-03-10
PRIOR APPLICATION NUMBER: 60/077632
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077641
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077649
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077791
PRIOR FILING DATE: 1998-03-12
PRIOR APPLICATION NUMBER: 60/078004
PRIOR FILING DATE: 1998-03-13
PRIOR APPLICATION NUMBER: 60/078886
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 60/079656
RIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079920
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/079923
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/080105
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080328
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080333
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
```

```
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081203
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081229
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081955
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081817
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082804
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082700
PRIOR FILING DATE: 1998-04-22
FRIOR APPLICATION NUMBER: 60/082797
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082796
PRIOR FILING DATE: 1998-04-23
PRIOR APPLICATION NUMBER: 60/083336
PRIOR FILING DATE: 1998-04-27
PRIOR APPLICATION NUMBER: 60/083322
PRIOR FILING DATE: 1998-04-28
PRIOR APPLICATION NUMBER: 60/083392
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083495
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083496
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083499
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083545
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083554
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083558
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083559
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083500
PRIOR FILING DATE: 1998-04-29
```

```
PRIOR APPLICATION NUMBER: 60/083742
   PRIOR FILING DATE: 1998-04-30
   PRIOR APPLICATION NUMBER: 60/084366
   PRIOR FILING DATE: 1998-05-05
   PRIOR APPLICATION NUMBER: 60/084414
   PRIOR FILING DATE: 1998-05-06
   PRIOR APPLICATION NUMBER: 60/084441
   PRIOR FILING DATE: 1998-05-06
   PRIOR APPLICATION NUMBER: 60/084637
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084639
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084640
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084598
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084600
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084627
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/084643
   PRIOR FILING DATE: 1998-05-07
   PRIOR APPLICATION NUMBER: 60/085339
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085338
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085323
   PRIOR FILING DATE: 1998-05-13
   PRIOR APPLICATION NUMBER: 60/085582
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085700
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085689
   PRIOR FILING DATE: 1998-05-15
   ERIOR APPLICATION NUMBER: 60/085579
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085580
   PRICE FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085573
   PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085704
   PRIOR WILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085697
  Query Match
                          41.3%;
                                  Score 840; DB 10;
                                                      Length 351;
                                  Pred. No. 2.7e-72;
  Best Local Similarity
                          44.8%;
  Matches 161; Conservative
                                55: Mismatches 123;
                                                       Indels
                                                                20;
                                                                     Gaps
           14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qу
                                   1 : 1
                                                             1: | ::| :: :
              : | | : |: : | |: |
                                             ::: :: :
            9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE----KLKGLIQRQVQMCK 58
Dh
           74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qу
              : | | | : | : | | | | | | | | : | | : | | |
           59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
          134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Qy
```

```
Db
         119 GVAFAVTRACSSGELEKCGCDRTVHGVSFQGFQWSGCSDNIAYGVAFSOSFVDVRERSKG 178
         193 --DLRFLMNLHNNEAGRTTVFSEMROECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
QУ
                Db
         179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFROVGHALKEKF 238
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Üν
            | | | | : |
                      | | : | |
                                 239 DGATEVEPRRVGSSRA-----LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
Qу
         311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
             292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
RESULT 10
US-09-978-189-226
; Sequence 226, Application US/09978189
 Publication No. US20030004102A1
 GENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT: Baker Kevin P.
  APPLICANT: Botstein, David
  APPLICANT:
             Desnoyers, Luc
  APPLICANT: Eaton, Dan
  APPLICANT:
             Ferrara, Napoleon
  APPLICANT:
             Filvaroff, Ellen
  APPLICANT:
             Fong, Sherman
  APPLICANT:
             Gao, Wei-Qiang
  APPLICANT:
             Gerber, Hanspeter
  APPLICANT:
             Gerritsen, Mary E.
  APPLICANT:
             Goddard, Audrey
  APPLICANT:
            Godowski, Paul J.
  APPLICANT: Grimaldi, J. Christopher
  APPLICANT: Gurney, Austin L.
  APPLICANT: Hillan, Kenneth J
  APPLICANT:
             Kljavin, Ivar J.
             Kuo, Sophia S.
  APPLICANT:
  APPLICANT:
             Napier, Mary A.
  APPLICANT:
             Pan, James;
             Paoni, Nicholas F.
  APPLICANT:
  APPLICANT:
             Roy, Margaret Ann
             Shelton, David L.
  APPLICANT:
  APPLICANT:
             Stewart, Timothy A.
  APPLICANT:
             Tumas, Daniel
  APPLICANT:
             Williams, P. Mickey
  APPLICANT:
             Wood, William I.
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
  TITLE OF INVENTION: Acids Encoding the Same
  FILE REFERENCE: P2630P1C7
  CURRENT APPLICATION NUMBER: US/09/978,189
  CURRENT FILING DATE: 2001-10-15
  PRIOR APPLICATION NUMBER: 09/918585
  PRIOR FILING DATE: 2001-07-30
  PRIOR APPLICATION NUMBER: 60/062250
```

PRIOR FILING DATE: 1997-10-17

```
PRIOR APPLICATION NUMBER: 60/064249
PRIOR FILING DATE: 1997-11-03
PRIOR APPLICATION NUMBER: 60/065311
PRIOR FILING DATE: 1997-11-13
PRIOR APPLICATION NUMBER: 60/066364
PRIOR FILING DATE: 1997-11-21
PRIOR APPLICATION NUMBER: 60/077450
PRIOR FILING DATE: 1998-03-10
PRIOR APPLICATION NUMBER: 60/077632
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077641
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077649
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077791
PRIOR FILING DATE: 1998-03-12
PRIOR APPLICATION NUMBER: 60/078004
PRIOR FILING DATE: 1998-03-13
PRIOR APPLICATION NUMBER: 60/078886
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 50/079656
PRIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 50/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079920
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/079923
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/080105
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080328
PRIOR FILING DATE: 1998-04-01
```

```
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081203
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081229
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081955
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081817
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082804
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082700
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082797
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082796
PRIOR FILING DATE: 1998-04-23
PRIOR APPLICATION NUMBER: 50/083336
PRIOR FILING DATE: 1998-04-27
PRIOR APPLICATION NUMBER: 60/083322
PRIOR FILING DATE: 1998-04-28
PRIOR APPLICATION NUMBER: 60/083392
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083495
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083496
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083499
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083545
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083554
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083558
```

PRIOR FILING DATE: 1998-04-29

```
PRIOR APPLICATION NUMBER: 60/083559
  PRIOR FILING DATE: 1998-04-29
  PRIOR APPLICATION NUMBER: 60/083500
  PRIOR FILING DATE: 1998-04-29
  PRIOR APPLICATION NUMBER: 60/083742
  PRIOR FILING DATE: 1998-04-30
  PRIOR APPLICATION NUMBER: 60/084366
  PRIOR FILING DATE: 1998-05-05
  PRIOR APPLICATION NUMBER: 60/084414
  PRIOR FILING DATE: 1998-05-06
  PRIOR APPLICATION NUMBER: 60/084441
  PRIOR FILING DATE: 1998-05-06
  PRIOR APPLICATION NUMBER: 60/084637
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084639
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084640
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084598
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084600
  PRIOR FILING DATE: 1998-5-07
  PRIOR APPLICATION NUMBER: 60/084627
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084643
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 50/085339
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085338
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085323
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085582
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085700
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085689
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085579
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085580
  PRIOR FILING DATE: 1998-05-15
   PRIOR APPLICATION NUMBER: 60/085573
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085704
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085697
                         41.3%; Score 840; DB 11; Length 351;
  Query Match
  Best Local Similarity 44.8%; Pred. No. 2.7e-72;
                               55; Mismatches 123; Indels
                                                              20; Gaps
  Matches 161; Conservative
           14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
QУ
             9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Db:
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
QУ
```

```
59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
        134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
QУ
            119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
        193 --DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qу
               179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
        251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Ωy
            239 DGATEVEPRRVGSSRA-----LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
        311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
             292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
RESULT 11
US-69-978-608A-226
; Sequence 226, Application US/09978608A
 Publication No. US20030045462A1
 GENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT: Baker Kevin P.
  APPLICANT: Botstein, David
  APPLICANT:
            Desnoyers, Luc
  APPLICANT: Eaton, Dan
  APPLICANT: Ferrara, Napoleon
            Filvaroff, Ellen
  APPLICANT:
  APPLICANT: Fong, Sherman
  APPLICANT: Gao, Wei-Qiang
  APPLICANT: Gerber, Hanspeter
  APPLICANT: Gerritsen, Mary E.
  APPLICANT: Goddard, Audrey
  APPLICANT: Godowski, Paul J.
  APPLICANT: Grimaldi, J. Christopher
  APPLICANT: Gurney, Austin L.
  APPLICANT: Hillan, Kenneth J
            Kljavin, Ivar J.
  APPLICANT:
  APPLICANT:
            Kuo, Sophia S.
            Napier, Mary A.
  APPLICANT:
  APPLICANT: Pan, James;
  APPLICANT: Paoni, Nicholas F.
  APPLICANT: Roy, Margaret Ann
  APPLICANT:
            Shelton, David L.
             Stewart, Timothy A.
  APPLICANT:
            Tumas, Daniel
  APPLICANT:
            Williams, P. Mickey
  APPLICANT:
  APPLICANT: Wood, William I.
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
  TITLE OF INVENTION: Acids Encoding the Same
  FILE REFERENCE: P2630P1C22
  CURRENT APPLICATION NUMBER: US/09/978,608A
```

CURRENT FILING DATE: 2001-10-16

Ę.

```
NUMBER OF SEQ ID NOS: 624
 Prior Application removed - See File Wrapper or Palm
 SEQ ID NO 226
   LENGTH: 351
   TYPE: PRT
   ORGANISM: Homo sapiens
US-09-978-608A-226
                      41.3%; Score 840; DB 11; Length 351;
 Query Match
 Best Local Similarity 44.8%; Pred. No. 2.7e-72;
 Matches 161; Conservative 55; Mismatches 123; Indels
                                                       20; Gaps
         14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qу
                                                    |: | ::| :: :
                          :| | : |: :| |:|
          9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE----KLKGLIQRQVQMCK 58
D'n
         74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Çу
                                            :|||:||:||
            :| :: || | | |: ||::|||||||
         59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
        134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Qy
            119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
        193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qу
               179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
        251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Qу
            239 DGATEVEPRRVGSSRA-----LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
        3.11 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369 ...
Qу
                                     292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
RESULT 12
US-09-978-585A-226
; Sequence 226, Application US/09978585A
; Publication No. US20030049633A1
 GENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT: Baker Kevin P.
             Botstein, David
  APPLICANT:
  APPLICANT:
             Desnoyers, Luc
  APPLICANT:
             Eaton, Dan
  APPLICANT:
            Ferrara, Napoleon
  APPLICANT: Filvaroff, Ellen
  APPLICANT: Fong, Sherman
  APPLICANT: Gao, Wei-Qiang
  APPLICANT:
             Gerber, Hanspeter
             Gerritsen, Mary E.
  APPLICANT:
  APPLICANT:
             Goddard, Audrey
             Godowski, Paul J.
  APPLICANT:
             Grimaldi, J. Christopher
  APPLICANT:
```

APPLICANT: Gurney, Austin L.

```
APPLICANT: Hillan, Kenneth J
  APPLICANT: Kljavin, Ivar J.
           Kuo, Sophia S.
  APPLICANT:
            Napier, Mary A.
  APPLICANT:
           Pan, James;
  APPLICANT:
            Paoni, Nicholas F.
  APPLICANT:
  APPLICANT:
           Roy, Margaret Ann
            Shelton, David L.
  APPLICANT:
  APPLICANT:
            Stewart, Timothy A.
           Tumas, Daniel
  APPLICANT:
  APPLICANT: Williams, P. Mickey
  APPLICANT: Wood, William I.
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
  TITLE OF INVENTION: Acids Encoding the Same
  FILE REFERENCE: P2630P1C15
  CURRENT APPLICATION NUMBER: US/09/978,585A
  CURRENT FILING DATE: 2001-10-16
  NUMBER OF SEQ ID NOS: 624
, Prior Application removed - See File Wrapper or Palm
 SEQ ID NO 226
   LENGTH: 351
   TYPE: PRT
   ORGANISM: Homo sapiens
US-09-978-585A-226
                     41.3%; Score 340; DB 11; Length 351;
 Query Match
 Best Local Similarity 44.3%; Pred. No. 2.7e-72;
 Matches 161; Conservative 55; Mismatches 123; Indels
                                                     20;
         14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
           9 SLRLLVFAVFSAAASN-----WLYLAKLSSVCSISEEETCE-----KLKGLICRQVQMCK 58
         74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKEVNRGCRETAFIFAITSA 133
QУ
           59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
DЪ
        134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Qy.
           119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
        193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
QΥ
               179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db.
        251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
ÇУ
           239 DGATEVEPRRVGSSRA------LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
        311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QΥ
            292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
```

<sup>;</sup> Sequence 226, Application US/09978191A

```
; Publication No. US20030050239A1
 GENERAL INFORMATION:
  APPLICANT: Ashkenazi, Avi
  APPLICANT: Baker Kevin P.
  APPLICANT:
              Botstein, David
              Desnoyers, Luc
  APPLICANT:
  APPLICANT:
               Eaton, Dan
               Ferrara, Napoleon
  APPLICANT:
               Filvaroff, Ellen
  APPLICANT:
               Fong, Sherman
  APPLICANT:
  APPLICANT:
               Gao, Wei-Qiang
  APPLICANT:
              Gerber, Hanspeter
  APPLICANT:
              Gerritsen, Mary E.
  APPLICANT:
               Goddard, Audrey
  APPLICANT:
               Godowski, Paul J.
               Grimaldi, J. Christopher
  APPLICANT:
               Gurney, Austin L.
  APPLICANT:
              Hillan, Kenneth J
  APPLICANT:
               Kljavin, Ivar J.
  APPLICANT:
               Kuo, Sophia S.
  APPLICANT:
  APPLICANT:
              Napier, Mary A.
  APPLICANT:
               Pan, James;
               Paoni, Nicholas F.
  APPLICANT:
  APPLICANT:
              Roy, Margaret Ann
  APPLICANT:
               Shelton, David L.
  APPLICANT:
              Stewart, Timothy A.
  APPLICANT:
              Tumas, Daniel
  APPLICANT:
               Williams, P. Mickey
               Wood, William I.
  APPLICANT:
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
  TITLE OF INVENTION: Acids Encoding the Same
  FILE REFERENCE: P2630P1C4
  CURRENT APPLICATION NUMBER: US/09/978,191A
  CURRENT FILING DATE: 2001-10-15
  PRIOR APPLICATION NUMBER: 09/918585
  PRIOR FILING DATE: 2001-07-30
  PRIOR APPLICATION NUMBER: 60/062250
  PRIOR FILING DATE: 1997-10-17
  PRIOR APPLICATION NUMBER: 60/064249
  PRIOR FILING DATE: 1997-11-03
  PRIOR APPLICATION NUMBER: 60/065311
  PRIOR FILING DATE: 1997-11-13
  PRIOR APPLICATION NUMBER: 60/066364
  PRIOR FILING DATE: 1997-11-21
  PRIOR APPLICATION NUMBER: 60/077450
  PRIOR FILING DATE: 1998-03-10
  PRIOR APPLICATION NUMBER: 60/077632
  PRIOR FILING DATE: 1998-03-11
  PRIOR APPLICATION NUMBER: 60/077641
  PRIOR FILING DATE: 1998-03-11
  PRIOR APPLICATION NUMBER: 60/077649
  PRIOR FILING DATE: 1998-03-11
  PRIOR APPLICATION NUMBER: 60/077791
  PRIOR FILING DATE: 1998-03-12
  PRIOR APPLICATION NUMBER: 60/078004
  PRIOR FILING DATE: 1998-03-13
```

```
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 60/079656
PRIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079920
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/079923
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/080105
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080328
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080333
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081203
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081229
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081955
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081817
PRIOR FILING DATE: 1998-04-15
```

```
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082804
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082700
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082797
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082796
PRIOR FILING DATE: 1998-04-23
PRIOR APPLICATION NUMBER: 60/083336
PRIOR FILING DATE: 1998-04-27
PRIOR APPLICATION NUMBER: 60/083322
PRIOR FILING DATE: 1998-04-28
PRIOR APPLICATION NUMBER: 60/083392
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083495
PRIOR FILING DATE: 1998-04-29
ERIOR APPLICATION NUMBER: 60/083496
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083499
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083545
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083554
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083558
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083559
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083500
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083742
PRIOR FILING DATE: 1998-04-30
PRIOR APPLICATION NUMBER: 60/084366
PRIOR FILING DATE: 1998-05-05
PRIOR APPLICATION NUMBER: 60/084414
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: 60/084441
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: 60/084637
PRIOR FILING DATE: 1998-05-07
PRIOR APPLICATION NUMBER: 60/084639
PRIOR FILING DATE: 1998-05-07
PRIOR APPLICATION NUMBER: 60/084640
PRIOR FILING DATE: 1998-05-07
PRIOR APPLICATION NUMBER: 60/084598
```

```
PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084600
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084627
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084643
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/085339
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085338
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085323
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085582
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085700
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085689
  PRIOR FILING DATE: 1998-05-15
  PRICE APPLICATION NUMBER: 60/085579
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085580
  PRIOR FILING DATE: 1998-05-15
  FRIOR APPLICATION NUMBER: 60/085573
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085704
  PRIOR WILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085697
                      41.3%; Score 840; DB 11;
                                              Length 351;
 Query Match
 Eest Local Similarity 44.8%; Pred. No. 2.7e-72;
 Matches 161; Conservative 55; Mismatches 123; Indels
         14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
           9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Do
         74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qу
            59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
        334 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
27
           319 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db.
        193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250-
Сy
               179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
        251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
QУ
                               111: 1
        239 DGATEVEPRRVGSSRA------LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
        311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
                                                          292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
```

```
RESULT 14
US-09-978-403A-226
; Sequence 226, Application US/09978403A
  Publication No. US20030050240A1
  GENERAL INFORMATION:
   APPLICANT: Ashkenazi, Avi
   APPLICANT:
               Baker Kevin P.
               Botstein, David
   APPLICANT:
               Desnoyers, Luc
   APPLICANT:
   APPLICANT:
               Eaton, Dan
   APPLICANT:
               Ferrara, Napoleon
               Filvaroff, Ellen
   APPLICANT:
               Fong, Sherman
   APPLICANT:
   APPLICANT:
               Gao, Wei-Qiang
               Gerber, Hanspeter
   APPLICANT:
               Gerritsen, Mary E.
   APPLICANT:
               Goddard, Audrey
   APPLICANT:
               Godowski, Paul J.
   APPLICANT:
               Grimaldi, J. Christopher
   APPLICANT:
   APPLICANT:
               Gurney, Austin L.
   APPLĮCANT:
               Hillan, Kenneth J
   APPLICANT:
               Kljavin, Ivar J.
   APPLICANT:
               Kuo, Sophia S.
   APPLICANT:
               Napier, Mary A.
   APPLICANT:
               Pan, James;
               Paoni, Nicholas F.
   APPLICANT:
   APPLICANT:
               Roy, Margaret Ann
               Shelton, David L.
   APPLICANT:
   APPLICANT:
               Stewart, Timothy A.
               Tumas, Daniel
   APPLICANT:
   APPLICANT: Williams, P. Mickey
               Wood, William I.
   TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
   TITLE OF INVENTION: Acids Encoding the Same
   FILE REFERENCE: P2630P1C17
   CURRENT APPLICATION NUMBER: US/09/978,403A
   CURRENT FILING DATE:
                         2002-03-19
   PRIOR APPLICATION NUMBER: 09/918585
   PRIOR FILING DATE: 2001-07-30
   PRIOR APPLICATION NUMBER: 60/062250
   PRIOR FILING DATE: 1997-10-17
   PRIOR APPLICATION NUMBER: 60/064249
   PRIOR FILING DATE: 1997-11-03
   PRIOR APPLICATION NUMBER: 60/065311
   PRIOR FILING DATE: 1997-11-13
   PRICE APPLICATION NUMBER: 60/066364
   PRIOR FILING DATE: 1997-11-21
   PRIOR APPLICATION NUMBER: 60/077450
   PRIOR FILING DATE: 1998-03-10
   PRIOR APPLICATION NUMBER: 60/077632
   PRIOR FILING DATE: 1998-03-11
   PRIOR APPLICATION NUMBER: 60/077641
   PRIOR FILING DATE: 1998-03-11
   PRIOR APPLICATION NUMBER: 60/077649
   PRIOR FILING DATE: 1998-03-11
```

```
PRIOR FILING DATE: 1998-03-12
PRIOR APPLICATION NUMBER: 60/078004
PRIOR FILING DATE: 1998-03-13
PRIOR APPLICATION NUMBER: 60/078886
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 60/079656
PRIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079920
PRIOR FILING DATE: 1998-03-30
PRICE APPLICATION NUMBER: 50/079923
PRIOR FILING DATE: 1998-03-30
FRIOR APPLICATION NUMBER: 60/080105
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080328
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080333
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FIEING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081203
PRIOR FILING DATE: 1998-04-09
```

PRIOR FILING DATE: 1998-04-09

```
PRIOR APPLICATION NUMBER: 60/081955
PRIOR FILING DATE: 1998-04-15
PRICE APPLICATION NUMBER: 60/081817
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082804
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082700
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082797
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082796
PRIOR FILING DATE: 1998-04-23
PRIOR APPLICATION NUMBER: 60/083336
PRIOR FILING DATE: 1998-04-27
PRIOR APPLICATION NUMBER: 60/083322
PRIOR FILING DATE: 1998-04-28
PRIOR APPLICATION NUMBER: 60/083392
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083495
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083496
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083499
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083545
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083554
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083558
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083559
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083500
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083742
PRIOR FILING DATE: 1998-04-30
PRIOR APPLICATION NUMBER: 60/084366
PRIOR FILING DATE: 1998-05-05
PRIOR APPLICATION NUMBER: 60/084414
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: 60/084441
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: 60/084637
PRIOR FILING DATE: 1998-05-07
```

```
PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084640
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084598
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084600
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084627
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084643
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/085339
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085338
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085323
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085582
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085700
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085689
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085579
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085580
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085573
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085704
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 50/085697
 Query Match
                      41.3%; Score 840; DB 11; Length 351;
  Best Local Similarity 44.8%; Pred. No. 2.7e-72;
 Matches 161; Conservative 55; Mismatches 123; Indels
         14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
QУ
            Db
          9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE----KLKGLIOROVOMCK 58
         74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qу
           Db
         59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
        134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Őλ
            Db
        119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
        193 --DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
QУ
                179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
        251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Qу
                     239 DGATEVEPRRVGSSRA-----LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
```

```
311 AGRACNSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
              292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
RESULT 15
US-09-978-564A-226
; Sequence 226, Application US/09978564A
 Publication No. US20030050241A1
  GENERAL INFORMATION:
   APPLICANT: Ashkenazi, Avi
              Baker, Kevin P.
   APPLICANT:
   APPLICANT:
              Botstein, David
              Desnoyers, Luc
  APPLICANT:
              Eaton, Dan
  APPLICANT:
   APPLICANT:
              Ferrara, Napoleon
              Filvaroff, Ellen
   APPLICANT:
  APPLICANT:
              Fong, Sherman
  APPLICANT:
              Gao, Wei-Qiang
  APPLICANT:
              Gerber, Hanspeter
  APPLICANT:
              Gerritsen, Mary E.
  APPLICANT:
              Goddard, Audrey
  APPLICANT:
              Godowski, Paul J.
              Grimaldi, J. Christopher
  APPLICANT:
  APPLICANT:
              Gurney, Austin L.
  APPLICANT:
              Hillan, Kenneth J
   APPLICANT:
              Kljavin, Ivar J.
   APPLICANT:
              Kuo, Sophia S.
   APPLICANT:
              Napier, Mary A.
   APPLICANT:
              Pan, James
  APPLICANT:
              Paoni, Nicholas F.
   APPLICANT:
              Roy, Margaret Ann
  APPLICANT:
              Shelton, David L.
              Stewart, Timothy A.
   APPLICANT:
              Tumas, Daniel
  APPLICANT:
  APPLICANT: Williams, P. Mickey
              Wood, William I.
  APPLICANT:
  TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
   TITLE OF INVENTION: Acids Encoding the Same
   FILE REFERENCE: P2630P1C25
   CURRENT APPLICATION NUMBER: US/09/978,564A
   CURRENT FILING DATE: 2001-10-16
   PRIOR APPLICATION NUMBER: 09/918585
   PRIOR FILING DATE: 2001-07-30
   PRIOR APPLICATION NUMBER: 60/062250
   PRIOR FILING DATE: 1997-10-17
  PRIOR APPLICATION NUMBER: 60/064249
  PRIOR FILING DATE: 1997-11-03
   PRIOR APPLICATION NUMBER: 60/065311
   PRIOR FILING DATE: 1997-11-13
  PRIOR APPLICATION NUMBER: 60/066364
  PRIOR FILING DATE: 1997-11-21
  PRIOR APPLICATION NUMBER: 60/077450
  PRIOR FILING DATE: 1998-03-10
  PRIOR APPLICATION NUMBER: 60/077632
```

PRIOR FILING DATE: 1998-03-11

```
PRIOR FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/077649
PRIOR FILING DATE: 1998-03-11
 PRIOR APPLICATION NUMBER: 60/077791
PRIOR FILING DATE: 1998-03-12
PRIOR APPLICATION NUMBER: 60/078004
PRIOR FILING DATE: 1998-03-13
PRIOR APPLICATION NUMBER: 60/078886
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078936
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078910
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/078939
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: 60/079294
PRIOR FILING DATE: 1998-03-25
PRIOR APPLICATION NUMBER: 60/079656
PRIOR FILING DATE: 1998-03-26
PRIOR APPLICATION NUMBER: 60/079664
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079689
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079663
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079728
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079786
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/079920
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/079923
PRIOR FILING DATE: 1998-03-30
PRIOR APPLICATION NUMBER: 60/080105
-PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080107
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080165
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080194
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: 60/080327
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 50/080328
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080333
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/080334
PRIOR FILING DATE: 1998-04-01
PRIOR APPLICATION NUMBER: 60/081070
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081049
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081071
PRIOR FILING DATE: 1998-04-08
PRIOR APPLICATION NUMBER: 60/081195
PRIOR FILING DATE: 1998-04-08
```

```
PRIOR APPLICATION NUMBER: 60/081203
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081229
PRIOR FILING DATE: 1998-04-09
PRIOR APPLICATION NUMBER: 60/081955
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081817
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081819
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081952
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/081838
PRIOR FILING DATE: 1998-04-15
PRIOR APPLICATION NUMBER: 60/082568
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082569
PRIOR FILING DATE: 1998-04-21
PRIOR APPLICATION NUMBER: 60/082704
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082804
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082700
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082797
PRIOR FILING DATE: 1998-04-22
PRIOR APPLICATION NUMBER: 60/082796
PRIOR FILING DATE: 1998-04-23
PRIOR APPLICATION NUMBER: 60/083336
PRIOR FILING DATE: 1998-04-27
PRIOR APPLICATION NUMBER: 60/083322
PRIOR FILING DATE: 1998-04-28
PRIOR APPLICATION NUMBER: 60/083392
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083495
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083496
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083499
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083545
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083554
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083558
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083559
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083500
PRIOR FILING DATE: 1998-04-29
PRIOR APPLICATION NUMBER: 60/083742
PRIOR FILING DATE: 1998-04-30
PRIOR APPLICATION NUMBER: 60/084366
PRIOR FILING DATE: 1998-05-05
PRIOR APPLICATION NUMBER: 60/084414
PRIOR FILING DATE: 1998-05-06
```

```
PRIOR FILING DATE: 1998-05-06
  PRIOR APPLICATION NUMBER: 60/084637
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084639
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084640
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084598
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084600
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084627
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/084643
  PRIOR FILING DATE: 1998-05-07
  PRIOR APPLICATION NUMBER: 60/085339
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085338
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085323
  PRIOR FILING DATE: 1998-05-13
  PRIOR APPLICATION NUMBER: 60/085582
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085700
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085689
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085579
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085580
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085573
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085704
  PRIOR FILING DATE: 1998-05-15
  PRIOR APPLICATION NUMBER: 60/085697
                       41.3%; Score 840; DB 11;
                                                 Length 351;
 Query Match
 Best Local Similarity 44.8%; Pred. No. 2.7e-72;
 Matches 161; Conservative 55; Mismatches 123; Indels
                                                               Gaps
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qv.
             9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Div
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
QУ
             59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Õλ
               :| |:|| | :| | |
                                         119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
         193 --DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qу
                179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
```

Qу	251	DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 31
~1		
Db	239	DGATEVEPRRVGSSRALVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 29
Qy <sup>-</sup>	311	AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
-		
Db		RGRTCNKTSKAIDGCELLCCGRGFHTAOVELAERCSCKFHWCCFVKCROCORLVELHTC 350

Search completed: January 21, 2004, 10:53:22

Job time : 39 secs

# GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run cn:

January 21, 2004, 10:46:52; Search time 22 Seconds

(without alignments)

711.592 Million cell updates/sec

Title:

US-09-674-292-1

Perfect score:

2036

Sequence:

1 MGLWALLPGWVSATLLLALA.....WCCHVSCRNCTHTRVLHECL 370

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched:

328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters:

328717

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database ::

Issued Patents AA:\*

- 1: /cgn2 6/ptodata/1/iaa/5A COMB pep:\*
- 2: /cgn2 6/ptodata/1/iaa/5B COMB.pep:\*
- 3: /cgn2 6/ptodata/1/iaa/6A COMB.pep:\*
- 4: /cgn2 6/ptodata/1/iaa/6B COMB.pep:\*
- /cgn2\_6/ptodata/1/iaa/PCTUS COMB.pep:\*
- /cgn2 6/ptodata/1/iaa/backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result		Query				
No.	Score		Length	DВ	ID	Description
1	2036	100.0	370	4	US-09-417-039-3	Sequence 3, Appli
2	840.5	41.3	355	3	US-09-082-270-2	Sequence 2, Appli
3	834	41.0	351	3	US-09-067-782A-2	Sequence 2, Appli
4	.785	38.6	360	4	US-09-417-039-4	Sequence 4, Appli
5	766.5	37.6	365	4	US-09-417-039-9	Sequence 9, Appli
6	756	37.1	397	1	US-08-647-928-8	Sequence 8, Appli
7	731.5	35.9	372	3	US-09-082-089-2	Sequence 2, Appli
8	723.5	35.5	359	3	US-09-082-089-3	Sequence 3, Appli
,91	723:5	35.5	363	3	US-09-082-089-5	Sequence 5, Appli
10 .	720.5	35.4	349	3	US-09-459-774-2	Sequence 2, Appli
11	720.5	35.4	349	4	US-09-903-817-2	Sequence 2, Appli

```
1.2
     713.5
              35.0
                      349
                           4
                               US-09-417-039-7
                                                            Sequence 7, Appli
13
     709.5
              34.8
                      389
                               US-08-485-449-2
                                                            Sequence 2, Appli
14
     709.5
              34.8
                      389
                            2
                               US-08-485-449-7
                                                            Sequence 7, Appli
15
       707
              34.7
                      389
                            2
                               US-08-485-449-6
                                                            Sequence 6, Appli
              33.3
16
       679
                      376
                            2
                               US-08-485-449-5
                                                            Sequence 5, Appli
17
     401.5
              19.7
                      133
                            4
                               US-09-417-039-5
                                                            Sequence 5, Appli
18
     3.73.5.
              18.3
                      .159
                            3
                               US-09-082-270-4
                                                            Sequence 4, Appli
19.
     336.5
              16.5
                      121
                            3
                               US-09-067-782A-5
                                                            Sequence 5, Appli
20
                      120
     327.5
              16.1
                            4
                               US-09-417-039-6
                                                            Sequence 6, Appli
21
     284.5
              14.0
                      124
                               US~09-417-039-8
                                                            Sequence 8, Appli
22
       225
              11.1
                      131
                               US-09-067-782A-4
                                                             Sequence 4, Appli
23
     113.5
               5.6
                      115
                            2
                               US-08-485-449-4
                                                             Sequence 4, Appli
                               US-09-252-991A-25632
                      577
2:4
       .113
               5.6
                                                            Sequence 25632, A
                            4
25
      99.5
               4.9
                      329
                            4
                               US-09-252-991A-30436
                                                            Sequence 30436, A
        99
               4.9
                      956
                               US-08-185-232A-2
                                                             Sequence 2, Appli
26
                            1
27
        99
               4.9
                      956
                            1
                               US-08-416-523-2
                                                             Sequence 2, Appli
        99
                      956
                               US-08-789-478-2
2.8
               4.9
                            3
                                                             Sequence 2, Appli
                      399
                               US-09-553-498-2
29
        96
               4.7
                           4
                                                            Sequence 2, Appli
                      399
3.0
        96
               4.7
                            4
                               US-09-618-869-2
                                                            Sequence 2, Appli
        92
               4.5
                      477
                               US-09-252-991A-24574
                                                             Sequence 24574, A
31
32
        91
               4.5
                      519
                               US-09-211-704A-7
                                                            Sequence 7, Appli
33
      89.5
               4.4
                     1652
                               US-09-627-650B-1
                                                            Sequence 1, Appli
      39.5
                     1652
                               US-09-436-063C-1
                                                            Sequence 1, Appli
34
               4.4
                            4
35
      39.5
               4.4
                     1917
                            4
                               US-09-627-650B-5
                                                            Sequence 5, Appli
      89.5
                     1917
                               US-09-436-063C-5
                                                            Sequence 5, Appli
36
               4.4
37
      89.5
                     2508
                            4
                               US-09-627-650B-7
                                                            Sequence 7, Applic
               4.4
      39.5
                     2508
                               US-09-436-063C-7
                                                            Sequence 7, Appli
38
               4.4
                            4
                     2544
                               US-09-627-650B-3
39
      39.5
               4.4
                                                            Sequence 3, Appli
      89.5
                     2544
                               US-09-436-063C-3
                                                            Sequence 3, Appli
               4.4
41
      39.5
                     2601
                               US-09-627-650B-9
                                                            Sequence 9, Appli
               4.4.
      89.5
                     2601
                               US-09-436-063C-9
                                                            Sequence 9, Appli
42
               4.4
                                                            Sequence 26, Appl
43
        8.9
               4.4
                      605
                           1
                               US-08-152-019A-26
44
        89
               4.4
                      50.5
                            3
                               US-08-482-677-4
                                                            Sequence 4, Appli
        89
               4.4
                      605
                           . 3
                               US-08-650-599A-1
                                                            Sequence 1, Appli
```

### ALIGNMENTS

```
US-09-417-039-3
; Sequence 3, Application US/09417039A
  Patent No. 6485972
 GENERAL INFORMATION:
  APPLICANT: McMahon, Andrew P.
   APPLICANT: Parr, Brian A.
   APPLICANT: Vaino, Seppo
   TITLE OF INVENTION: WNT SIGNALLING IN REPRODUCTIVE ORGANS
   FILE REFERENCE: 00246/232001
   CURRENT APPLICATION NUMBER: US/09/417,039A
   CURRENT FILING DATE: 1999-10-12
   EARLIER APPLICATION NUMBER: US 60/109,355
   EARLIER FILING DATE: 1998-10-15
  NUMBER OF SEQ ID NOS: 11
   SOFTWARE: FastSEQ for Windows Version 4.0
 SEQ ID NO 3
   LENGTH: 370
```

RESULT 1

```
TYPE: PRT
   ORGANISM: Homo sapiens
US-09-417-039-3
                             Score 2036; DB 4; Length 370;
                      100.0%;
  Query Match
                             Pred. No. 1.8e-199;
                     100.0%;
  Best Local Similarity
                                                               0;
  Matches 370; Conservative
                           0; Mismatches
                                             Indels
                                                         Gaps
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qу
            1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Db
         61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
QУ
            61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
. D5
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Qу
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
D'n
         181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Qy
            181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
 Db
         241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
 ⊋у.
            241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
 Db
         301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
 Qу
            301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
 Db
         361 THTRVLHECL 370
 Ç.y
            361 THTRVLHECL 370
 Db
 RESULT 2
 US-09-082-270-2
  Sequence 2, Application US/09082270
  Patent No. 6043053
   GENERAL INFORMATION:
     APPLICANT: BARNES, MICHAEL
    APPLICANT: TESTA, TANIA
     TITLE OF INVENTION: No. 6043053el Compounds
     NUMBER OF SEQUENCES: 4
     CORRESPONDENCE ADDRESS:
      ADDRESSEE: RATNER & PRESTIA
      STREET: P.O. BOX 980
      CITY: VALLEY FORGE
      STATE: PA
      COUNTRY: USA
      ZIP: 19482
     COMPUTER READABLE FORM:
      MEDIUM TYPE: Diskette
      COMPUTER: IBM Compatible
      OPERATING SYSTEM: DOS
```

```
SOFTWARE: FastSEQ for Windows Version 2.0
    CURRENT APPLICATION DATA:
     APPLICATION NUMBER: US/09/082,270
     FILING DATE: 20-MAY-1998
     CLASSIFICATION:
    PRIOR APPLICATION DATA:
     APPLICATION NUMBER: GB 9710716.3
     FILING DATE: 23-MAY-1997
     APPLICATION NUMBER: GB 9804921.6
     FILING DATE: 06-MAR-1998
    ATTORNEY/AGENT INFORMATION:
     NAME: PRESTIA, PAUL F.
     REGISTRATION NUMBER: 23,031
     REFERENCE/DOCKET NUMBER: GH-30164
    TELECOMMUNICATION INFORMATION:
     'TELEPHONE: 610-407-0700
     TELEFAX: 610-407-0701
     TELEX: 846169
  INFORMATION FOR SEQ ID NO:
    SEQUENCE CHARACTERISTICS:
     LENGTH: 355 amino acids
     TYPE: amino acid
     STRANDEDNESS: single
     TOPOLOGY: linear
    MOLECULE TYPE: protein
US-09-082-270-2
 Query Match 41.3%; Score 840.5; DB 3; Length 355;
Dest Local Similarity 46.0%; Pred. No. 1.8e-77;
Matches 155; Conservative 52; Mismatches 121; Indels
                                                     9; Gaps
         34 WWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVREC 93
Qy:
           26 WWSLALGQQYTSL----GSQPLLCGSIPGLVPKQLRFCRNYIEIMPSVAEGVKLGIQEC 80
Dic
         94 KWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCT 152
QУ
           31 QHQFRGRRWNCTTIDDSLAIFGPVLDKATRESAFVHAIASAGVAFAVTRSCAEGTSTICG 140
Db
        153 CDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
Qν
           141 CDSHHKGPPGEGWKWGGCSEDADFGVLVSREFADARENRPDARSAMNKHNNEAGRTTILD 200
Db
        213 EMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
Qy
            201 HMHLKCKCHGLSGSCEVKTCWWAQPDFRAIGDFLKDKYDSASEMVV---EKHRESRGWVE 257
Db
        273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
Qу
            253 TLRAKYSLFKPPTERDLVYYENSPNFCEPNPETGSFGTRDRTCNVTSHGIDGCDLLCCGR 317
Db
        333 GHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
           318 GHNTRTEKRKEKCHCIFHWCCYVSCQECIRIYDVHTC 354
```

```
US-09-067-782A-2
; Sequence 2, Application US/09067782A
  Patent No. 6165751
   GENERAL INFORMATION:
     APPLICANT: BARNES, MICHAEL
     TITLE OF INVENTION: NOVEL COMPOUNDS
    NUMBER OF SEQUENCES: 6
     CORRESPONDENCE ADDRESS:
      ADDRESSEE: Ratner & Prestia
      STREET: P.O. Box 980
      CITY: Valley Forge
      STATE: PA
      COUNTRY: US
      ZIP: 19482-0980
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Diskette
      COMPUTER: IBM Compatible
      OPERATING SYSTEM: DOS
      SOFTWARE: FastSEQ for Windows Version 2.0
     CURRENT APPLICATION DATA:
     APPLICATION NUMBER: US/09/067,782A
      FILING DATE: 28-APR-1998
      CLASSIFICATION: 435
     PRIOR APPLICATION DATA:
      APPLICATION NUMBER: UK 9710734.6
      FILING DATE: 23-MAY-1997
      APPLICATION NUMBER: EP 97309144.0
      FILING DATE: 13-NOV-1998
    ATTORNEY/AGENT INFORMATION:
    NAME: Prestia, Paul F
      REGISTRATION NUMBER: 23,031
      REFERENCE/DOCKET NUMBER: GH-30167
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: 601-407-0700
      TELEFAX: 610-407-0701
      TELEX: 846169
   INFORMATION FOR SEQ ID NO:
    SEQUENCE CHARACTERISTICS:
      LENGTH: 351 amino acids
      TYPE: amino acid
      STRANDEDNESS: single
      TOPOLOGY: linear
    MCLECULE TYPE: protein
US-09-067-782A-2
  Query Match
                        41.0%; Score 834; DB 3; Length 351;
  Best Local Similarity 44.6%, Pred. No. 7.9e-77;
  Matches 160; Conservative 55; Mismatches 124; Indels
                                                            20; Gaps
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qу
             : | | : |: : | |: |
                             | : || ::: :: :
                                                         |: | ::| :: :
           9 SLKLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Db
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qу
             Db
          59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGIREAALVYAISSA 118
```

```
134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Qу
           Db
        119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
        193 --DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qу
               179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
        251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
QУ
                    | | | : | |
                              | | | | |
        239 DGATEVEPRRVGSSRA------LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
        311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
            Db
        292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
RESULT 4
US-09-417-039-4
; Sequence 4, Application US/09417039A
 Patent No. 6485972
 GENERAL INFORMATION:
  APPLICANT: McMahon, Andrew P.
  APPLICANT: Parr, Brian A.
  APPLICANT: Vaino, Seppo
  TITLE OF INVENTION: WNT SIGNALLING IN REPRODUCTIVE ORGANS
  FILE REFERENCE: 00246/232001
  CURRENT APPLICATION NUMBER: US/09/417,039A
  CURRENT FILING DATE: 1999-10-12
  MARLIER APPLICATION NUMBER: US 60/109,355
  EARLIER FILING DATE: 1998-10-15
  NUMBER OF SEQ ID NOS: 11
  SOFTWARE: FastSEQ for Windows Version 4.0
 SEQ ID NO 4
   LENGTH: 360
   TYPE: PRT
   ORGANISM: Homo sapiens
US-09-417-039-4
                     38.6%; Score 785; DB 4; Length 360;
 Query Match
                     40.2%; Pred. No. 8.2e-72;
 Best Local Similarity
 Matches 150; Conservative 63; Mismatches 124; Indels
          2 GLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSL 61
QΫ
                      1:1
                                              |\cdot|::|
          7 GIWLWLP-----LLLTW------LTPEVNSSWWYMRATGGSSRVMCD-
Do
         62 QLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPH-LFGKIVNRG 120
QУ
                Db
         45 PGLVSSQRQLCHRHPDVMRAISQGVAEWTAECQHQFRQHRWNCNTLDRDHSLFGRVLLRS 104
        121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPD---WHWGGCSDNIDFG 177
Qy
            : []]]]]]]
        105 SRESAFVYAISSAGVVFAITRACSQGEVKSCSCDPKKMGSAKDSKGIFDWGGCSDNIDYG 164
Db
        178 RLFGREFVDSGE-KGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRL 236
Qy:
```

```
165 IKFARAFVDAKERKGKDARALMNLHNNRAGRKAVKRFLKQECKCHGVSGSCTLRTCWLÄM 224
Db
         237 PTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSP 296
Qγ
               1 :: : | | | | | | |
         225 ADFRKTGDYLWRKYNGAIOVVMNODGTGFTVANE-----RFKKPTKNDLVYFENSP 275
Db
         297 NFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVS 356
QУ
                   : | | | | | | |
         276 DYCIRDREAGSLGTAGRVCNLTSRGMDSCEVMCCGRGYDTSHVTRMTKCGCKFHWCCAVR 335
Db
         357 CRNCTHTRVLHEC 369
Qy
                   : | |
         336 CODCLEALDVHTC 348
ũb
RESULT 5
US-09-417-039-9
; Sequence 9, Application US/09417039A
 Patent No. 6485972
  GENERAL INFORMATION:
   APPLICANT: McMahon, Andrew P.
   APPLICANT: Parr, Brian A.
   APPLICANT: Vaino, Seppo
   TITLE OF INVENTION: WNT SIGNALLING IN REPRODUCTIVE ORGANS
  FILE REFERENCE: 00246/232001
  CURRENT APPLICATION NUMBER: US/09/417,039A
   CURRENT FILING DATE: 1999-10-12
   MARLIER APPLICATION NUMBER: US 60/109,355
   MARLIER FILING DATE: 1998-10-15
   NUMBER OF SEQ ID NOS: 11
   SOFTWARE: FastSEQ for Windows Version 4.0
  SEQ ID NO 9
    LENGTH: 365
    TYPE: PRT
    ORGANISM: Homo sapiens
US-09-417-039-9
                       37.6%; Score 766.5; DB 4; Length 365;
  Query Match
  Best Local Similarity 39.6%; Pred. No. 6.5e-70;
  Matches 145; Conservative 68; Mismatches 120;
                                                Indels
                                                            Gaps. -
          12 SATLLLALAAL ---- PAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEP---SLQLL 64
Qy:
               |:|||
                            :...|||-
                                   8 SKFFLVALAIFFSFAQVVIEANS---WWSL----GMNNPVQMSEVYIIGAQPLCSQLAGL 60
Ub
          65 SRKORRLIRONPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRET 124
QУ
             61 SQGQKKLCHLYQDHMQYIGEGAKTGIKECQYQFRHRRWNCSTVDNTSVFGRVMQIGSRET 120
Db
         125 AFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGP-DWHWGGCSDNIDFGRLFGRE 183
QΫς
             121 AFTYAVSAAGVVNAMSRACREGELSTCGCSRAARPKDLPRDWLWGGCGDNIDYGYRFAKE 180
Db
         184 FVDSGEKGR------DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMR 235
Qу
             191 FVDARERERIHAKGSYESARILMNLHNNEAGRRTVYNLADVACKCHGVSGSCSLKTCWLQ 240
Db
```

```
236 LPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKS 295
QУ
          241 LADFRKVGDALKEKYDSAAAMRLNSRG------KLVQVNSRFNSPTTQDLVYIDPS 290
Db
         296 PNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHV 355
QУ
            291 PDYCVRNESTGSLGTQGRLCNKTSEGMDGCELMCCGRGYDQFKTVQTERCHCKFHWCCYV 350
Db
        356 SCRNCT 361
Qу
             1: ||
         351 KCKKCT 356
Db
RESULT 6
US-08-647-928-8
; Sequence 8, Application US/08647928
; Patent No. 5780291
  GENERAL INFORMATION:
    APPLICANT: Rodan, Gideon A.
    APPLICANT: Rutledge, Sue-Jane
    APPLICANT: Schmidt, Azriel
    TITLE OF INVENTION: DNA ENCODING THE WNT-X GROWTH FACTOR
    NUMBER OF SEQUENCES: 8
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: John W. Wallen
      STREET: 126 E. Lincoln Avenue
      CITY: Rahway
      STATE: New Jersey
      COUNTRY: USA
    ZIP: 07065
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Floppy disk
      COMPUTER: IBM PC compatible
     OPERATING SYSTEM: PC-DOS/MS-DOS
      SOFTWARE: PatentIn Release #1.0, Version #1.25
    CURRENT APPLICATION DATA:
      APPLICATION NUMBER: US/08/647,928
      FILING DATE: 22-MAY-1996
      CLASSIFICATION: 435
    PRIOR APPLICATION DATA:
      APPLICATION NUMBER: 08/172,365
      FILING DATE: 22-DEC-1993
   ATTORNEY/AGENT INFORMATION:
      NAME: Wallen, John W.
      REGISTRATION NUMBER: 35,403
      REFERENCE/DOCKET NUMBER: 19010
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: (908) 594-3905
      TELEFAX: (908) 594-4720
  INFORMATION FOR SEQ ID NO: 8:
    SEQUENCE CHARACTERISTICS:
      LENGTH: 397 amino acids
      TYPE: amino acid
      STRANDEDNESS: single
      TOPOLOGY: linear
   MOLECULE TYPE: protein
```

US-08-647-928-8

```
37.1%; Score 756; DB 1; Length 397;
 Query Match
 Best Local Similarity 41.0%; Pred. No. 8.6e-69;
 Matches 152; Conservative 62; Mismatches 119; Indels
                                                         38;
                                                             Gaps
         11 VSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRR 70
Qу
                                                    |: :: | :||:
            :: ||| | ||| : :
                                |\cdot| : :
         41 LACLLLLLLTLPARVDTS----WWYIGALGAR---
                                                  ---VICDNIPGLVSRQRQ 84
Db
         71 LIRONPGILHSVSGGLOSAVRECKWQFRNRRWNCPTAPGPH-LFGKIVNRGCRETAFIFA 129
Qy
            85 LCQRYPDIMRSVGEGAREWIRECQHQFRHHRWNCTTLDRDHTVFGRVMLRSSRDGAFVYA 144
Db
         130 ITSAGVTHSVARSCSEGSIESCTCDYRRRG---PGGPDWHWGGCSDNIDFGRLFGREFVD 486
ŌУ
            145 ISSAGVVHAITRACSQGELSVCSCDPYTRGRHHDQRGDFDWGGCSDNIHYGVRFAKAFVD 204
Db
         187 SGEKG-RDLRFLMNLHNNEAGRT-----TVFSEMRQECKCHGMSGSCTVRTCWMRLPTL 239
Qу
                                  205 AKEKRLKDARALMNLHNNRCGRTVSTHVCAVRRFLKLECKCHGVSGSCTLRTCWRALSDF 264
Db
         240 RAVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFC 299
Qу
            \cdots :: \quad : \quad | \mid \mid \mid \mid \mid \mid
                             |:| : :
         265 RRTGDYLRRRTDGAVQVMATQDGANFTAARQ------GYRRATRTDLVYLTTAPDYC 315
Db
         300 TYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGH-RTRTQRVTERCNCTFHWCCHVSCR 358
QУ
                  316 VLDKAAGSLGTAGRVCSKTSKGTDGCEIMCCGRGYDTTRVTRVTQ-CECKFHWCCAVRCK 374
aa
         359 NCTHTRVLHEC 369
QУ
             | :| :| |
         375 ECRNTVDVHTC 385
Pb
RESULT 7
US-09-082-089-2
; Sequence 2, Application US/09082089
 Patent No. 6100060
  GENERAL INFORMATION:
    APPLICANT: BARNES, MICHAEL
    APPLICANT: TESTA, TANIA
    APPLICANT: KELSELL, DAVID
    TITLE OF INVENTION: No. 6100060el Compounds
    NUMBER OF SEQUENCES: 5
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: RATNER & PRESTIA
      STREET: P.O. BOX 980
      CITY: VALLEY FORGE
      STATE: PA
      COUNTRY: USA
      ZIP: 19482
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Diskette
      COMPUTER: IBM Compatible
      OPERATING SYSTEM: DOS
      SOFTWARE: FastSEQ for Windows Version 2.0
    CURRENT APPLICATION DATA:
```

```
APPLICATION NUMBER: US/09/082,089
     FILING DATE: 20-MAY-1998
     CLASSIFICATION:
    PRIOR APPLICATION DATA:
     APPLICATION NUMBER: GB 9710737.9
     FILING DATE: 23-MAY-1997
     APPLICATION NUMBER: GB 9803981.1
     FILING DATE: 25-FEB-1998
     APPLICATION NUMBER: GB 9804007.4
     FILING DATE: 25-FEB-1998
    ATTORNEY/AGENT INFORMATION:
     NAME: PRESTIA, PAUL F.
     REGISTRATION NUMBER: 23,031
     REFERENCE/DOCKET NUMBER: GH-30166
    TELECOMMUNICATION INFORMATION:
     TELEPHONE: 610-407-0700
     TELEFAX: 610-407-0701
     TELEX: 846169
  INFORMATION FOR SEQ ID NO: 2:
    SEQUENCE CHARACTERISTICS:
      LENGTH: 372 amino acids
     TYPE: amino acid
      STRANDEDNESS: single
     TOPOLOGY: linear
    MOLECULE TYPE: protein
US-69-082-089-2
                      35.9%; Score 731.5; DB 3; Length 372;
 Query Match
 Best Local Similarity 38.5%; Pred. No. 2.5e-66;
 Matches 365; Conservative 67; Mismatches 130; Indels
                                                        35;
                                                           Gaps
          2 GLWALLPGWVSATLILALAALPAALA----ANSSGRWWGIVNVASSTNLLTDSKSLQLV 56
Qу
          5 GHWGGLRPTMPSLLLLFTAALLSSWAQLLTDANS---WWSL-----ALNPVQRPEMFIIG 56
         57 LEP---SLQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLF 113
Qy
                : |
         57 AQPVCSQLPGLSPGQRKLCQLYQEHMAYIREGAKTGIKECQHQFPQRRWKCSTADNASVF 116
Dρ
        172 GKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGP-DWHWGGCSD 172
Qу
            117 GRVMQIGSRETAFTHAVSAAGVVNAISPACSEGELSTCGCSRTARPKDLPRDWLWGGCGD 176
\vec{a}C
         273 NIDFGRLFGREFVDSGEKGRDL------RFLMNLHNNEAGRTTVFSEMRQECKCHGMS 224
QУ
            |:::| | :||||: |: ::
                                      11111:1
         177 NVEYGYRFAKEFVDAREREKNFAKGSEEQGRVLMNLQNNEAGRRAVYKMADVACKCHGVS 236
Db
         225 GSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPP 284
Qу
             237 RSCRLKTCWLQLAEFRKVGDRLKEKYDSAAAMRVTRKG-----RLELVNSRFTQP 286
Db.
         285 SPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTER 344
Qу
            287 TPEDLVYVDPSPDYCLRNESTGSLGTQGRLCNKTSEGMDGCELMCCGRGYNQFKSVQVER 346
Db
         345 CNCTFHWCCHVSCRNCT 361
Qy
            1:1 1111 | 1: 11
```

```
RESULT 8
US-09-082-089-3
; Sequence 3, Application US/09082089
; Patent No. 6100060
  GENERAL INFORMATION:
    APPLICANT: BARNES, MICHAEL
    APPLICANT:
                TESTA, TANIA
    APPLICANT: KELSELL, DAVID
    TITLE OF INVENTION: No. 6100060el Compounds
    NUMBER OF SEQUENCES: 5
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: RATNER & PRESTIA
      STREET: P.O. BOX 980
      CITY: VALLEY FORGE
       STATE: PA
       COUNTRY: USA
       ZIP: 19482
     COMPUTER READABLE FORM:
       MEDIUM TYPE: Diskette
       COMPUTER: IBM Compatible
       OPERATING SYSTEM: DOS
       SOFTWARE: FastSEQ for Windows Version 2.0
     CURRENT APPLICATION DATA:
       APPLICATION NUMBER: US/09/082,089
       FILING DATE: 20-MAY-1998
       CLASSIFICATION:
     PRIOR APPLICATION DATA:
      APPLICATION NUMBER: GB 9710737.9
      FILING DATE: 23-MAY-1997
      APPLICATION NUMBER: GB 9803981.1
      FILING DATE: 25-FEB-1998
       APPLICATION NUMBER: GB 9804007.4
       FILING DATE: 25-FEB-1998
     ATTORNEY/AGENT INFORMATION:
       NAME: PRESTIA, PAUL F.
       REGISTRATION NUMBER: 23,031
       REFERENCE/DOCKET NUMBER: GH-30166
     TELECOMMUNICATION INFORMATION:
       TELEPHONE: 610-407-0700
       TELEFAX: 610-407-0701
       TELEX: 846169
   INFORMATION FOR SEQ ID NO: 3:
     SEQUENCE CHARACTERISTICS:
       LENGTH: 359 amino acids
       TYPE: amino acid
       STRANDEDNESS: single
       TOPOLOGY: linear
     MOLECULE TYPE: protein
US-09-032-089-3
                         35.5%; Score 723.5; DB 3; Length 359;
  Query Match
  Best Local Similarity 39.0%; Pred. No. 1.6e-65;
  Matches 142; Conservative 65; Mismatches 122;
                                                     Indels 35; Gaps
```

```
15 LLLALAALPAALA----ANSSGRWWGIVNVASSTNLLTDSKSLQLVLEP---SLQLLSR 66
Qy.
                          111 | | | : : |
          5 LLLFTAALLSSWAQLLTDANS---WWSL----ALNPVQRPEMFIIGAQPVCSQLPGLSP 56
Db
         67 KQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAF 126
Qу
             57 GQRKLCQLYQEHMAYIREGAKTGIKECQHQFPQRRWKCSTADNASVFGRVMQIGSRETAF 116
Db
        127 IFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGP-DWHWGGCSDNIDFGRLFGREFV 185
Qу
              117 THAVSAAGVVNAISRACSEGELSTCGCSRTARPKDLPRDWLWGGCGDNVEYGYRFAKEFV 176
Db
        186 DSGEKGRDL-----RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLP 237
QУ
                           177 DAREREKNFAKGSEEQGRVLMNLQNNEAGRRAVYKMADVACKCHGVSRSCRLKTCWLQLA 236
Db
        238 TLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPN 297
Qу
              | | | | | | ::::| [::::::|
                                          ||| :
                                                    |:| |||| : ||:
        237 EFRKVGDRLKEKYDSAAAMRVTRKG------RLELVNSRFTQPTPEDLVYVDPSPD 286
         298 FCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSC 357
Qу
            :| : |: || || || :| :||||:|||:||
                                                   287 YCLRNESTGSLGTQGRLCNKTSEGMDGCELMCCGRGYNQFKSVQVERCHCKFHWCCFVRC 346
Db
        358 RNCT 361
Qy
            : ||
         347 KKCT 350
Db
RESULT 9
US-09-082-089-5
 Sequence 5, Application US/09082089
  Patent No. 6100060
   GENERAL INFORMATION:
    APPLICANT: BARNES, MICHAEL
    APPLICANT: TESTA, TANIA
    APPLICANT: KELSELL, DAVID
    TITLE OF INVENTION: No. 6100060el Compounds
    NUMBER OF SEQUENCES: 5
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: RATNER & PRESTIA
      STREET: P.O. BOX 980
      CITY: VALLEY FORGE
      STATE: PA
      COUNTRY: USA
      ZIP: 19482
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Diskette
      COMPUTER: IBM Compatible
      OPERATING SYSTEM: DOS
      SOFTWARE: FastSEQ for Windows Version 2.0
    CURRENT APPLICATION DATA:
      APPLICATION NUMBER: US/09/082,089
      FILING DATE: 20-MAY-1998
      CLASSIFICATION:
    PRIOR APPLICATION DATA:
```

APPLICATION NUMBER: GB 9710737.9

```
FILING DATE: 23-MAY-1997
     APPLICATION NUMBER: GB 9803981.1
     FILING DATE: 25-FEB-1998
     APPLICATION NUMBER: GB 9804007.4
     FILING DATE: 25-FEB-1998
   ATTORNEY/AGENT INFORMATION:
     NAME: PRESTIA, PAUL F.
     REGISTRATION NUMBER: 23,031
     REFERENCE/DOCKET NUMBER: GH-30166
   TELECOMMUNICATION INFORMATION:
     TELEPHONE: 610-407-0700
     TELEFAX: 610-407-0701
     TELEX: 846169
  INFORMATION FOR SEQ ID NO:
   SEQUENCE CHARACTERISTICS:
     LENGTH: 363 amino acids
     TYPE: amino acid
     STRANDEDNESS: single
     TOPOLOGY: linear
   MOLECULE TYPE: protein
US-09-082-089-5
                     35.5%; Score 723.5; DB 3; Length 363;
, Query Match
 Best Local Similarity 39.0%; Pred. No. 1.6e-65;
Matches 142; Conservative 65; Mismatches 122; Indels 35;
                                                         Gaps
         15 LLLALAALPAALA----ANSSGRWWGIVNVASSTNLLTDSKSLQLVLEP---SLQLLSR 66
                              111 111 :: 1
         9 LLLFTAALLSSWAQLUTDANS---WWSL-----ALNFVQRPEMFIIGAQPVCSQLPGLSP 60
Db
         67 KORRLIRONPGILHSVSGGLOSAVRECKWOFRNRRWNCPTAPGPHLFGKIVNRGCRETAF 126
QΨ
            61 GQRKLCQLYQEHMAYIREGAKTGIKECQHQFPQRRWKCSTADNASVFGRVMQIGSRETAF 120
        127 IFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGP-DWHWGGCSDNIDFGRLFGREFV 135
ŷу
             121 THAVSAAGVVNAISRACSEGELSTCGCSRTARPKDLPRDWLWGGCGDNVEYGYRFAKEFV 180
Db
                         -RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLP 237
        186 DSGEKGRDL--
Qv
                          |: |: ::
        181 DAREREKNFAKGSEEQGRVLMNLQNNEAGRRAVYKMADVACKCHGVSRSCRLKTCWLQLA 240
Db
        235 TLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPN 297
Çу
                                                  |:| ||| : ||:
             -----RLELVNSRFTQPTPEDLVYVDPSFD 290
        241 EFRKVGDRLKEKYDSAAAMRVTRKG--
Dh
        298 FCTYSGRLGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSC 357
Ov
           291 YCLRNESTGSLGTQGRLCNKTSEGMDGCELMCCGRGYNQFKSVQVERCHCKFHWCCFVRC 350
Db
        358 RNCT 361
ÇΥ
           : ||
Db
        351 KKCT 354
```

```
Sequence 2; Application US/09459774
 Patent No. 6297030
 GENERAL INFORMATION:
  APPLICANT: Michael Robert Barnes
  APPLICANT: Tania Tamson Testa
  TITLE OF INVENTION: NOVEL COMPOUNDS
  FILE REFERENCE: GP-30193
  CURRENT APPLICATION NUMBER: US/09/459,774
  CURRENT FILING DATE: 1999-12-13
  EARLIER APPLICATION NUMBER: UK 9828419.3
  EARLIER FILING DATE: 1998-12-23
  NUMBER OF SEQ ID NOS: 2
  SOFTWARE: FastSEQ for Windows Version 3.0
 SEQ ID NO 2
   LENGTH: 349
   TYPE: PRT
   ORGANISM: HOMO SAPIENS
US-09-459-774-2
                       35.4%; Score 720.5; DB 3; Length 349;
 Query Mấtch
Best Local Similarity 42.2%;
                             Pred. No. 3e-65;
                            57; Mismatches 116; Indels
                                                             Gaps
 Matches 130; Conservative
          4 LSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRE 123
Qy
            44 LAPRQRAICQSRPDAIIVIGEGSQMGLDECQFQFRNGRWNCSALGERTVFGKELKVGSRE 103
Dir
         124 TAFIMAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPD-WHWGGCSDNIDFGRLFG 181
Qy
         104 AAFTYAIIAAGVAHAITAACTQGNLSDCGCDKEKQGQYHRDEGWKWGGCSADIRYGIGFA 163
Db
182 REFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRA 241
Qγ
            164 KVFVDAREIKQNARTLMNLHNNEAGRKILEENMKLECKCHGVSGSCTTKTCWTTLPQFRE 223
Db
         242 VGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTY 301
Çу
            : | | | : | : | | | | . . .
                                                    |: | |:::::|
         224 LGYVLKDKYNEAVHVEPVRASRNK--RPTFLKIK-KPLSYRKPMDTDLVYIEKSPNYCEE 280
Db
         302 SGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCT 361
Çy
                |: || |||| ::|
                                                 281 DPVTGSVGTQGRACNKTAPQASGCDLMCCGRGYNTHQYARVWQCNCKFHWCCYVKCNTCS 340
Db
         362 HTRVLHEC 369
Qу
                :: |
         341 ERTEMYTC 348
Db
RESULT 11
US-09-903-817-2
; Sequence 2, Application US/09903817
; Patent No. 6515108
; GENERAL INFORMATION:
   APPLICANT: BARNES, Michael Robert
   APPLICANT: TESTA, Tania Tamson
   TITLE OF INVENTION: NOVEL COMPOUNDS
   FILE REFERENCE: GP-30193-D1
```

```
CURRENT APPLICATION NUMBER: US/09/903,817
  CURRENT FILING DATE: 2001-07-12
  PRIOR APPLICATION NUMBER: UK 9828419.3
  PRIOR FILING DATE: 1998-12-23
  PRIOR APPLICATION NUMBER: 09/459,774
  PRIOR FILING DATE: 1999-12-13
  NUMBER OF SEQ ID NOS: 2
  SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 2
   LENGTH: 349
   TYPE: PRT
   ORGANISM: HOMO SAPIENS
US-09-903-817-2
                      35.4%; Score 720.5; DB 4; Length 349;
Query Match
 Best Local Similarity 42.2%; Pred. No. 3e-65;
 Matches 130; Conservative 57; Mismatches 116; Indels
                                                        5; Gaps
         64 LSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRE 123
Qy -
            : [ ] ] : [ ] [ ]
         44 LAPRQRAICQSRPDAIIVIGEGSQMGLDECQFQFRNGRWNCSALGERTVFGKELKVGSRE 103.
Db
        124 TAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPD--WHWGGCSDNIDFGRLFG 181
Ωу
             104 AAF'IYAIIAAGVAHAITAACTQGNLSDCGCDKEKQGQYHRDEGWKWGGCSADIRYGIGFA 163
ΰb
        182 REFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRA 241
ĎΛ
            164 KVFVDAREIKQNARTLMNLHNNEAGRKILEENMKLECKCHGVSGSCTTKTCWTTLPQFRE 223
D_{D}^{ij}
        242 VGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTY 301
            224 LGYVLKDKYNEAVHVEPVRASRNK--RPTFLKIK-KPLSYRKPMDTDLVYIEKSPNYCEE 280
Ó
         302 SGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCT 361
Qy
               :||| |||:| |-
        281 DPVTGSVGTQGRACNKTAPQASGCDLMCCGRGYNTHQYARVWQCNCKFHWCCYVKCNTCS 3'40
Db
        362 HTRVLHEC 369
Qу
               :: |
         341 ERTEMYTC 348
RESULT 12
US-09-417-039-7
; Sequence 7, Application US/09417039A
; Patent No. 6485972
; GENERAL INFORMATION:
  APPLICANT: McMahon, Andrew P.
   APPLICANT: Parr, Brian A.
  APPLICANT: Vaino, Seppo
  TITLE OF INVENTION: WNT SIGNALLING IN REPRODUCTIVE ORGANS
   FILE REFERENCE: 00246/232001
  CURRENT APPLICATION NUMBER: US/09/417,039A
   CURRENT FILING DATE: 1999-10-12
   EARLIER APPLICATION NUMBER: US 60/109,355
   EARLIER FILING DATE: 1998-10-15
```

```
SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 7
   LENGTH: 349
   TYPE: PRT
   ORGANISM: Homo sapiens
US-09-417-039-7
 Query Match
                       35.0%; Score 713.5; DB 4; Length 349;
 Best Local Similarity 41.9%; Pred. No. 1.6e-64;
 Matches 129; Conservative 57; Mismatches 117; Indels
                                                          5; Gaps
                                                                     3:
          64 LSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRE 123
Qу
            :||| : ||:
          44 LAPRQRAICQSRPDAIIVIGEGSQMGLDECQFQFRNGRWNCSALGERTVFGKELKVGSRD 103
Db
         124 TAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPD--WHWGGCSDNIDFGRLFG 181
Qу
             11 : 11 : 11 1 1 : : 1 : 1 : 1 : 1
                                               104 GAFTYAIIAAGVAHAITAACTHGNLSDCGCDKEKQGQYHRDEGWKWGGCSADIRYGIGFA 163.
Db
         182 REFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRA 241
Qу
            154 KVFVDAREIKQNARTLMNLHNNEAGRKILEENMKLECKCHGVSGSCTTKTCWTTLPQFRE 223
Db
         242 VGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTY 301
QУ
            224 BGYVLKDKYNEAVHVEPVRASRNK--RPTFLKIK-KPLSYRKPMDTDLVYIEKSPNYCEE 280
         302 SGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCT 36,1
                1: 11 1111 ::1
                                :||| |||||
        381 DPVTGSVGTQGRACNKTAPQASGCDLMCCGRGYNTHQYARVWQCNCKFHWCCYVKCNTCS 340
D_{\mathbf{D}}
         363 HTRVLHEC 369
Qy.
                :: |
        341 ERTEMYTC 348
RESULT 13
US-08-485-449-2
 Sequence 2, Application US/08485449
 Patent No. 5824789
  GENERAL INFORMATION:
    APPLICANT: VANDENBERG, DAVID
    TITLE OF INVENTION: HEMATOPOIETIC GROWTH FACTORS, NUCLEOTIDE
    TITLE OF INVENTION:
                      SEQUENCE ENCODING GROWTH FACTORS AND METHODS OF USE
    TITLE OF INVENTION: THEREOF
    NUMBER OF SEQUENCES: 7
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: MORRISON & FOERSTER
      STREET: 755 Page Mill Road
      CITY: Palo Alto
      STATE: California
      COUNTRY: USA
      ZIP: 94304-1018
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Floppy disk
      COMPUTER: IBM PC compatible
```

NUMBER OF SEQ ID NOS: 11

```
OPERATING SYSTEM: PC-DOS/MS-DOS
     SOFTWARE: PatentIn Release #1.0, Version #1.30
    CURRENT APPLICATION DATA:
     APPLICATION NUMBER: US/08/485,449
     FILING DATE:
     CLASSIFICATION: 536
    ATTORNEY/AGENT INFORMATION:
     NAME: KONSKI, ANTOINETTE F.
     REGISTRATION NUMBER: 34,202
     REFERENCE/DOCKET NUMBER: 20296-20035.00
   TELECOMMUNICATION INFORMATION:
     TELEPHONE: (415) 813-5600
     TELEFAX: (415) 494-0792
     TELEX: 706141
  INFORMATION FOR SEQ ID NO:
    SEQUENCE CHARACTERISTICS:
     LENGTH: 389 amino acids
     TYPE: amino acid
    TOPOLOGY: linear
    MOLECULE TYPE: protein
US-08-485-449-2
                     34.8%;
                            Score 709.5; DB 2; Length 389;
 Query Match
 Best Local Similarity 38.5%; Pred. No. 4.6e-64;
                              Mismatches 122; Indels
 Matches 353; Conservative
                          53;
         PAALAANSSGRWWGIVNVASSTNLLTDS-KSLQLVLEP-----SLQLLSRKQRRLI 72
                1: 11
         11 PSGLA-----GLLFLALCSRALSNEILGLKLPGEFPLIGNTVCLTLSGLSKRQLGLC 62
        RQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPG----PHLFGKIVNRGCRETAFIF 128
            63 LPNDDVTASALQGLHIAVHECQHQLRDQRWNCSALEGGGRLPH-HSAILKRGFRESAFSF 121
        129 AITSAGVTHSVARSCSEGSIESCTCDYRRRG---
Ŋγ.
           122 SMLAAGVMHAVATACSLGKLVSCGCGWKGSGEQDRLRAKLLQLQALSRGKSFPHSLPSPG 181
Db
        160 -----PGGPD-WHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
97
                192 PGSSPSPGPQDTWEWGGCNHDMDFGEKFSRDFLDSREAPRDIQARMRIHNNRVGRQVVTE 241
Db
        213 EMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
Qy
            242 NLKRKCKCHGTSGSCQFKTCWRAAPEFRAVGAALRERL---GRAIFIDT-HNRNSGAFQP 297
Db
        273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
Qу
                                     :||||||:||
        298 RLRPRRLS-----GELVYFEKSPDFCERDPTMGSPGTRGRACNKTSRLLDGCGSLCCGR 351
Db
        333 GHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QΫ
                   352 GHNVLRQTRVERCHCRFHWCCYVLCDECKVTEWVNVC 388
Db
```

```
Sequence 7, Application US/08485449
 Patent No. 5824789
  GENERAL INFORMATION:
    APPLICANT: VANDENBERG, DAVID
    TITLE OF INVENTION: HEMATOPOIETIC GROWTH FACTORS, NUCLEOTIDE
    TITLE OF INVENTION: SEQUENCE ENCODING GROWTH FACTORS AND METHODS OF USE
                        THEREOF
    TITLE OF INVENTION:
    NUMBER OF SEQUENCES: 7
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: MORRISON & FOERSTER
      STREET: 755 Page Mill Road
      CITY: Palo Alto
      STATE: California
      COUNTRY: USA
      ZIP: 94304-1018
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Floppy disk
      COMPUTER: IBM PC compatible
      OPERATING SYSTEM: PC-DOS/MS-DOS
      SOFTWARE: PatentIn Release #1.0, Version #1.30
    CURRENT APPLICATION DATA:
      APPLICATION NUMBER: US/08/485,449
      FILING DATE:
      CLASSIFICATION: 536
    ATTORNEY/AGENT INFORMATION:
      NAME: KONSKI, ANTOINETTE F.
      REGISTRATION NUMBER: 34,202
      REFERENCE/DOCKET NUMBER: 20296-20035.00
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: (415) 813-5600
      TELEFAX: (415) 494-0792
      TELEX: 706141
   INFORMATION FOR SEQ ID NO: 7:
    SEQUENCE CHARACTERISTICS:
      LENGTH: 389 amino acids
      TYPE: amino acid
      STRANDEDNESS: single
      TOPOLOGY: linear
US-08-485-449-7
                        34.8%; Score 709.5; DB 2;
 Query Match
 Best Local Similarity 38.5%; Pred. No. 4.6e-64;
Matches 153; Conservative 53; Mismatches 122;
                                                    Indels
                                                             69; Gaps
          23 PAALAANSSGRWWGIVNVASSTNLLTDS-KSLQLVLEP-----SLQLLSRKQRRLI 72
Qv
                         | | : : | : | : | : | | | | | |
                                                          : | | | : : | |
          11 PSGLA-----GLLFLALCSRALSNEILGLKLPGEPPLTGNTVCLTLSGLSKRQLGLC 62
Db
          73 RQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPG----PHLFGKIVNRGCRETAFIF 128
QУ
              63 LRNPDVTASALQGLHIAVHECQHQLRDQRWNCSALEGGGRLPH-HSAILKRGFRESAFSF 121
Db
         129 AITSAGVTHSVARSCSEGSIESCTCDYRRRG-----
O\lambda
             :: :||| |:|| :|| |: || |: ||
         122 SMLAAGVMHAVATACSLGKLVSCGCGWKGSGEQDRLRAKLLQLQALSRGKSFPHSLPSPG 181
Db :
         160 -----PGGPD-WHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
Qv
```

```
182 PGSSPSPGPQDTWEWGGCNHDMDFGEKFSRDFLDSREAPRDIQARMRIHNNRVGRQVVTE 241
Db
        213 EMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
Qу
             242 NLKRKCKCHGTSGSCQFKTCWRAAPEFRAVGAALRERL---GRAIFIDT-HNRNSGAFQP 297
Db
        273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
ΩУ
            298 RLRPRRLS-----GELVYFEKSPDFCERDPTMGSPGTRGRACNKTSRLLDGCGSLCCGR 351
Db
        333 GHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
            352 GHNVLRQTRVERCHCRFHWCCYVLCDECKVTEWVNVC 388
7)1
RESULT 15
US-08-485-449-6
; Sequence 6, Application US/08485449
 Patent No. 5824789
  GENERAL INFORMATION:
    APPLICANT: VANDENBERG, DAVID
    TITLE OF INVENTION: HEMATOPOIETIC GROWTH FACTORS, NUCLEOTIDE
    TITLE OF INVENTION: SEQUENCE ENCODING GROWTH FACTORS AND METHODS OF USE
    TITLE OF INVENTION: THEREOF
    NUMBER OF SEQUENCES: 7
    CORRESPONDENCE ADDRESS:
      ADDRESSEE: MORRISON & FOERSTER
      STREET: 755 Page Mill Road
      CITY: Palo Alto
      STATE: California
      COUNTRY: USA
      ZIP: 94304-1018
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Floppy disk
      COMPUTER: IBM PC compatible
      OPERATING SYSTEM: PC-DOS/MS-DOS
      SOFTWARE: PatentIn Release #1.0, Version #1.30
    CURRENT APPLICATION DATA:
      APPLICATION NUMBER: US/08/485,449
      FILING DATE:
      CLASSIFICATION: 536
    ATTORNEY/AGENT INFORMATION:
      NAME: KONSKI, ANTOINETTE F.
      REGISTRATION NUMBER: 34,202
      REFERENCE/DOCKET NUMBER: 20296-20035.00
    TELECOMMUNICATION INFORMATION:
      TELEPHONE: (415) 813-5600
      TELEFAX: (415) 494-0792
      TELEX: 706141
   INFORMATION FOR SEQ ID NO: 6:
    SEQUENCE CHARACTERISTICS:
      LENGTH: 389 amino acids
      TYPE: amino acid
      STRANDEDNESS: single
      TOPOLOGY: linear
```

US-08-485-449-6

Best Loc	cal S	34.7%; Score 707; DB 2; Length 389; Similarity 39.6%; Pred. No. 8.4e-64;	
Matches	149	9; Conservative 48; Mismatches 119; Indels 60; Gaps	8;
QY.	4.3	STNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVREC	93
Db	24	SRALSNEILGLKLPGEPPLTANTVCLTLSGLSKRQLGLCLRSPDVTASALQGLHIAVHEC	8,3
Qу	94	KWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIE :    ::	149
Db	84	QHQLRDQRWNCSALEGGGRLPH-HSAILKRGFRESAFSFSMLAAGVMHAVATACSLGKLV	142
Qy	1.50	SCTCDYRRRGPGGPD-WHWGGCSDN	173
Db	143	SCGCGWKGSGEQDRLRAKLLQLQALSRGKIFPISQPSPVPGSVPSPGPQDTWEWGGCNHD	202
QУ	174	IDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCW :       : :       ::   :         ::::!	233
ממ	2.03	MDFGEKFSRDFLDSREAPRDIQARMRIHNNRVGRQVVTENLKRKCKCHGTSGSCQFKTCW	362
Qу	234	MRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFE	293
Db	263	RAAPEFRAIGAALRERISRAIFIDT-HNRNSGAFQPRLRPRRLSGELVYFE	312
QV	294	KSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCC	353
<b>335</b>	313	KSPDFCERDFTLGSPGTRGRACNKTSRLLDGCGSLCCGRGHNVLRQTRVERCHCRFHWCC	372
<u>©</u>	354	HVSCRNCTHTRVLHEC 369	i stre
pls	373		

Search completed: January 21, 2004, 10:52:31 Job time 23 secs

### GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

CM protein - protein search, using sw model

Run on:

January 21, 2004, 10:43:57; Search time 42 Seconds

(without alignments)

2273.321 Million cell updates/sec

Title:

US-09-674-292-1

Perfect score:

2036

Sequence:

1 MGLWALLPGWVSATLLLALA.....WCCHVSCRNCTHTRVLHECL 370

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched:

830525 segs, 258052604 residues

Total number of hits satisfying chosen parameters:

830525

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Batabase :

SPTREMBL 23:\*

1: sp\_archea:\* ·

2: sp\_bacteria:\* (

3: sp\_fungi:\*

4: sp\_human:\*

5: sp invertebrate:\*

6: sp\_mammal:\*

7: sp\_mhc:\*

8: sp\_organelle:\*

9: sp\_phage:\*

10: sp\_plant:\*

11: sp rodent:\*

12: sp\_virus:\*

13: sp\_vertebrate:\*

14: sp\_unclassified:\*

15: sp\_rvirus:\*

16: sp\_bacteriap:\*

17: sp\_archeap:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

.

Result Query

No. Score Match Length DB ID

Description

1	1598	78.5	370	13	P79752	P79752 fugu rubrip
2	1203.5	59.1	262	13	Q9PT79	Q9pt79 oryzias lat
3	1151	56.5	394	5	Q9GRA6	Q9gra6 gryllus bim
4	1127.5	55.4	374	5	Q8T396	Q8t396 cupiennius
5	1064.5	52.3	377	5	061699	061699 branchiosto
6	1037	50.9	358	5	Q8MPL8	Q8mpl8 platynereis
7	1018.5	50.0	468	5	Q8MQP9	Q8mqp9 drosophila
8	996.5	48.9	337	5	Q8MZJ5	Q8mzj5 pheidole mo
9	990.5	48.6	415	5	Q8IPI1	Q8ipi1 drosophila
10	989	48.6	334	5	Q8MZJ2	Q8mzj2 formica nit
11	971	47.7	337	5	Q8MZJ4	Q8mzj4 crematogast
12	950.5	46.7	330	5	Q8MZJ3	Q8mzj3 myrmica ame
13	878.5	43.1	365	5	Q8WRF7	Q8wrf7 mysidium co
14	866.5	42.6	303	5	Q9TX64	Q9tx64 tribolium c
15	838	41.2	351	4	Q8IUM6	Q8ium6 homo sapien
16	334	41.0	353	5	Q9TZT6	Q9tzt6 branchiosto
17	832	40.9	329	11	Q8BLT2	Q8blt2 mus musculu
1.8	818	40.2	376	13	Q9PWH1	Q9pwh1 gallus gall
19	800.5	39.3	395	5	Q8WS76	Q8ws76 branchiosto
20	798	39.2	375	5	Q8MPL6	Q8mpl6 platynereis
21	787.5	38.7	365	4	Q8N2E5	Q8n2e5 homo sapien
22	. 785	38.6	360	11	Q9CZW3	Q9czw3 mus musculu
23	785	38.6	360	11	Q8BRC7	Q8brc7 mus musculu
24	783	38.5	358	13	Q9IAU3	Q9iau3 brachydanio
25	779	38.3	350	13	Q8UW39	Q8uw39 fugu rubrip
26	778	38.2	387	13	. Q8AY89	Q8ay89 brachydanio
2:7	774.5	38.0	385	13	Q98SN7	Q98sn7 gallus gall
28	768.5	37.7	360	11	Q6BM17	Q8bm17 mus musculu
2.9	768 5	37.7	380	11	Ø8AGA6	Q8vcv6 mus musculu
3.0-	768.5	37.7	380	11	Q8BMF9	Q8bmf9 mus musculu
31	767	37.7	250	5	Q27671	Q27671 junonia coe
32	765.5	37.6	370	5	Q8WS75	Q8ws75 branchiosto
33	765.5	37.6	385	13	Q9YGX6	Q9ygx6 gallus gall
34	765	37.5	311	11	Q9QXK5	Q9qxk5 rattus norv
35.	764	37.5	. 3,15	13	Q9PUI3	Q9pui3 gallus gall
3,6	759	37.3	267	13	Q8UUT7	Q8uut7 gallus gall
37	756	37.1	381	5	Q8T395	Q8t395 cupiennius
38	749	36.8	37:2	11	Q91XF5	Q91xf5 mus musculu
39	748.5	36.8	371	5	Q8T8A8	Q8t8a8 halocynthia
40	747.5	36.7	331	5	096867	096867 strongyloce
41	741.5	36.4	389	13	P79856	P79856 pleurodeles
42	738	36.2	364	11	Q8C6P4	Q8c6p4 mus musculu
43	737	36.2	360	5	Q9U6V0	Q9u6v0 ciona intes
44	724.5	35.6	349	13	042258	042258 xenopus lae
4.5	720.5	35.4	349	.4	Q96Н90	Q96h90 homo sapien

# ALIGNMENTS

# RESULT 1 P79752 ID P79752 PRELIMINARY; PRT; 370 AA. AC P79752; DT 01-MAY-1997 (TrEMBLrel. 03, Created) DT 01-MAY-1997 (TrEMBLrel. 03, Last sequence update) DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)

```
DE
    Wnt1.
    Fugu rubripes (Japanese pufferfish) (Takifugu rubripes).
OS
    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
    Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC
    Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
OC
    Tetradontoidea; Tetraodontidae; Takifugu.
O.C
ΟX
    NCBI TaxID=31033;
RN
    [1]
RP
    SEQUENCE FROM N.A.
    MEDLINE=99177347; PubMed=10077531;
RX
    Gellner K., Brenner S.;
RA
    "Analysis of 148 kb of genomic DNA around the wnt1 locus of Fugu
RT
RT
    rubripes.";
    Genome Res. 9:251-258(1999).
RL
    -!- FUNCTION: PROBABLE DEVELOPMENTAL PROTEIN (BY SIMILARITY).
CC
     -! - SUBCELLULAR LOCATION: POSSIBLY SECRETED AND ASSOCIATES WITH THE
CC
        EXTRACELLULAR MATRIX (BY SIMILARITY).
CC
    -!- SIMILARITY: BELONGS TO THE WNT FAMILY.
CC
    EMBL; AF056116; AAC34388.1; -.
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt grthfactor.
DP.
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DH
    PROSITE; PS00246; WNT1; 1.
DR
    Developmental protein; Glycoprotein.
W.
                                DEOC18B685CEF6E2 CRC64;
              370 AA; 41050 MW;
SQ
    SEQUENCE
                                         DB 13;
                                                 Length 370;
                       78.5%;
                              Score 1598;
  Query Masch
                              Pred. No. 9.6e-149;
                       76.8%;
  Best Local Similarity
                                                             Gaps
                                Mismatches 42;
                                                 Indels
  Matches 282; Conservative
                            41;
           B ALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLL 64
QУ
                                5 ALLLG VKAACILLVSSLTGTGAVNNSGRWWGIVNVASSSNLLTNSKNVQLVLDPSLALL 63
DB
          65 SRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRET 124-
Qу
                                                     | :|||||||||
             64 SRRQRRLTRQNPGILHAIAAGLHAAIKECKWQFRNRRWNCPTTHSPAVFGKIVNRGCRET 123
ďű
         125 AFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREF 184
Qy
             124 AFVFAIMSAGVTHAVARSCSEGAIEFCTCDYRRRGPGGPDWHWGGCSDNVEFGRMFSREF 183
Db
         135 VDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGD 244
ΩУ
             184 VDSSERGRDLRYLTNLHNNEAGRMTVSSEMRQECKCHGMSGSCTVRTCWMRLPSFRMVGD 243
Db
         245 VLRDRFDGASRVLYGNRGSNRAS-RAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSG, 303
QУ
                                        111:11:111:11
              244 FLKDRFDGASRVVYANKGSNRASHRAHPRHLEPENPAHKPPSSMDLVYFEKSPNFCSYSG 303
Db
         364 RLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHT 363
QУ
             304 KTGTLGTSGRACNSTSPGLDGCELLCCGRGFKTRTESMTERCHCTFHWCCHVSCLNCTST 363
Db
         364 RVLHECL 370
Qv
```

Db.

```
RESULT 2
Q9PT79
ID
    Q9PT79
               PRELIMINARY;
                                PRT;
                                      262 AA.
AC
    Q9PT79;
    01-MAY-2000 (TrEMBLrel. 13, Created)
DT
    01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT
    01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
DE
    Wnt-1 (Fragment).
    Oryzias latipes (Medaka fish) (Japanese ricefish).
ΟĠ
    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
    Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC
    Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
OC
    Beloniformes; Adrianichthyidae; Oryziinae; Oryzias.
OC
    NCBI TaxID=8090;
OX
RN
    [1]
    SEQUENCE FROM N.A.
RP
    Carl M., Wittbrodt J.;
RA
    "Graded interference with FGF-signalling uncovers its dorso-ventral
RT
RT
    asymmetry at the mid-hindbrain boundary.";
RL
    Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
DR
    EMBL; AJ243208; CAB64348.1; -.
    InterPro; IPR005817; Wnt.
IJR
    InterPro; IPR005816; Wnt grthfactor.
DP.
DR
    Pfam; PF00110; wnt: 1.
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
    NON TER
15.45
               . . 1
    NON TER
FT
               262
                      262
SO
    SEQUENCE
            262 AA; 29267 MW;
                                 5563A1680A25E503 CRC64;
 Query Match
                       59.1%;
                               Score 1203.5;
                                           DB 13;
                                                    Length 262;
 Best Local Similarity
                       79.8%;
                             Pred. No. 4.2e-110;
Matches 209; Conservative
                                 Mismatches
                             23;
                                                  Indels
                                                               Gaps -
          96 OFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDY 155
ÇV.
                         ďQ
           1 OFRNRRWNCPTTHSPAIFGKIVNRGCRETAFVFAITSAGVTHAVARSCSEGSIESCTCDY 60
         156 RRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMR 215
GV
             61 RRRGPGGPDWHWGGCSDNVEFGRVFSREFVDSSERGRDLRYLTNLHNNEAGRMIVSTEMH 120
Db
         216 OECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRAS-RAELLRL 274
Qy
             121 QECKCHGMSSSCTVRTCWMRLPSFRTVGDFLKDRFDGASRVVYANKGSNRASHRADPRHL 180
Db
         275 EPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGRACNSSSPALDGCELLCCGRGH 334
ĊУ
             181 EPENPAHKPPSTMDLVYFEKSPNFCSTTVKTGTLGTSGRTCNSSSPGLDGCELLCCGRGF 240
T) }
         335 RTRTQRVTERCNCTFHWCCHVS 356
Qy
             241 KTRSEAVTERCHCTFHWCCHVS 262
Db
```

```
RESULT 3
Q9GRA6
                                  PRT;
                                         394 AA.
                PRELIMINARY;
ID
    Q9GRA6
AC
    Q9GRA6;
     01-MAR-2001 (TrEMBLrel. 16, Created)
DT
     01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
D'\Gamma
     01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
     Wingless protein.
DE
GN
    WG.
    Gryllus bimaculatus (Two-spotted cricket).
OS
     Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC.
     Neoptera; Orthopteroidea; Orthoptera; Ensifera; Gryllidae; Gryllinae;
OC.
OC
     Gryllus.
OX:
     NCBI_TaxID=6999;
RN
     [1]
RP
     SEQUENCE FROM N.A.
     MEDLINE=20461145; PubMed=11003837;
RX
     Niwa N., Inoue Y., Nozawa A., Saito M., Misumi Y., Ohuchi H.,
RA
RA
     Yoshioka H., Noji S.;
     "Correlation of diversity of leg morphology in Gryllus bimaculatus
RT
     (cricket) with divergence in dpp expression pattern during leg
RT
     development.";
RT
     Development 127:4373-4381(2000).
ÆΙ
     -!- FUNCTION: PROBABLE DEVELOPMENTAL PROTEIN (BY SIMILARITY).
CE
     -!- SUBCELLULAR LOCATION: POSSIBLY SECRETED AND ASSOCIATES WITH THE
ĊĊ
         EXTRACELLULAR MATRIX (BY SIMILARITY).
CC
     -!- SIMILARITY: BELONGS TO THE WNT FAMILY.
CC
     EMBL; AB044713; BAB19660.1; -.
DR
     InterPro; IPR000345; CytC_heme_bind.
DR
     InterPro; IPR005817; Wnt.
DR
     InterPro: IPR005816; Wnt grthfactor.
DR
     Pfam; PF00110; wnt; 1.
DR
     PRINTS; PR01349; WNTPROTEIN.
DR
     SMART; SM00097; WNT1; 1.
DR
     PROSITE; PS00190; CYTOCHROME_C; 1.
DR
     PROSITE; PS00246; WNT1; 1.
DR
     Developmental protein; Glycoprotein.
KW
     SEQUENCE 394 AA; 43650 MW; CA2FBF1D505DDAA0 CRC64;
SQ
                                                     Length 394;
                          56.5%; Score 1151; DB 5;
  Query Match
                                 Pred. No. 1-1e-104;
  Best Local Similarity
                          57.0%;
                                                                            8:
                                                 90;
                                                      Indels
                                                                    Gaps
  Matches 219; Conservative
                                45; Mismatches
           15 LLLALAALPAALAAN- -SSGR---WWGIVNVASSTNLLTDSKSLQLVLEPSLQ-LLSRK 67
QY
                                11:44-1-1--
           11 LLMALAGLAARAATRAKMSRGRGSKWWGIAKAGEPNNLLPLAPG-ELYMDPAVHATLRRK 69
Db
           68 QRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTA-
                                                       -- PGPHLFGKIVNRGCRET 124
Qу
                                   1: ||::||||||
              70 QRRLVRDHPGVLLAVVKGANQAIGECQFQFRNRRWNCSTKNFFRGKNLFGKIVDRGCRET 129
Db
          12'5 AFIFAITSAGVTHSVARSCSEGSIESCTCDYRR---
                                                             --- PDWHWGGCSD 172
                                                      RGPGG--
Qу
              11 11
          130 AFIYAITSAGVTHAIARACAEGSIQSCTCDYRHAGRVAGGRGGGGGGKKPDWEWGGCSD 189
Db
```

```
173 NIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTC 232
Qу
             190 NIEYGFKFSRDFVDTGERGRTLREKMNLHNNEAGRLHVREEMRKECKCHGMSGSCTVKfC 249
Db
         233 WMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAEL--
                                                  ----LRLEPEDPAHKPPS 285
Qу
             250 WMRLPHFRVVGDNLKDRFDGASRVLVGNAGSPRGPGAGKGKGNRYNFQLQPYDAQHKPPG 309
Db
         286 PHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERC 345
Qу
               310 RKDLVYLDQSPNFCERNPRQGIQGTHGRECNETSLGLDGCDLMCCGRGHRSQEVMLVERC 369
Db
         346 NCTFHWCCHVSCRNCTHTRVLHEC 369
ДУ
             370 HCTFHWCCEVKCKTCHVRKTIHTC 393
Db
RESULT 4
081396
    Q8T396
               PRELIMINARY;
                                PRT:
ID
AC
     O8T396;
DТ
     01-JUN-2002 (TrEMBLrel. 21, Created)
     01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
DT
     01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
DΕ
     Wingless.
GŃ
     WG.
ÓŠ.
     Oupiennius salei (Wandering spider).
     Eukaryota; Metazoa; Arthropoda; Chelicerata; Arachnida; Araneae;
00
     Aganeomorphae; Entelegynae; Lycosoidea; Ctenidae; Cupiennius
OC.
    NCBI TaxID=6928;
:OX
511
     [1]
R.P
     SEQUENCE FROM N.A.
     MEDLINE=21863863; PubMed=11874919;
\mathbb{R}\mathbb{X}
     Damen W.G.M.;
KA
     "Parasegmental organization of the spider embryo implies that the
RT
     parasegment is an evolutionary conserved entity in arthropod
RT
     embryogenesis.";
RT
RL
     Development 129:1239-1250(2002).
     -!- FUNCTION: PROBABLE DEVELOPMENTAL PROTEIN (BY SIMILARITY).
CC
     -!- SUBCELLULAR LOCATION: POSSIBLY SECRETED AND ASSOCIATES WITH THE
CC
        EXTRACELLULAR MATRIX (BY SIMILARITY).
CC
     -!- SIMILARITY: BELONGS TO THE WNT FAMILY.
CC
DR
     EMBL; AJ315945; CAC87040.1; -.
     InterPro; IPR005817; Wnt.
DR:
     InterPro, IPR005816; Wnt_grthfactor.
DR
     Pfam; PF00110; wnt; 1.
DR
     SMART; SM00097; WNT1; 1.
DR
ÐR
     PROSITE; PS00246; WNT1; 1.
     Developmental protein; Glycoprotein.
KW
     SEQUENCE 374 AA; 42220 MW; 0F60F0F10D89C4C0 CRC64;
20
                        55.4%; Score 1127.5; DB 5;
                                                   Length 374;
  Query Match
                        56.2%; Pred. No. 2e-102;
  Best Local Similarity
  Matches 204; Conservative
                             51; Mismatches
                                             97; Indels
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLE--PSLQL-LSRKQRR 70
Qÿ
```

```
17. TLLIPAQAKPRHRGQRGS-RWWSLAFSEEPTNLVVDFHRGNSMNDRGPAPHLPLRKKQRR 75
Db
          71 LIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAP---GPHLFGKIVNRGCRETAFI 127
QΨ
             76 LVRDNPGAMQAIGRGVKVAISECKYQFKKRRWNCPTADHARGKNIFGKIVQRGCRETAFL 135
Db
         187 RAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDS
Qу
             136 YAITSAGVTHSLSRACREGLVSTCNCDYRRRGPSGLHWEWGGCSDNIDFGAKFSRQFVDA 195
Db
         188 GEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLR 247
Qy
              ]:|:|||:||
                                    196 SERGKDLRYIMNLHNNEAGRAHVIGGMRRQCKCHGMSGSCTVQTCWMQLSPFRTIGDGLK 255
Db
         248 DRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGT 307
QУ
             256 DRFDGASRVLVTNRGNVR--RRALLK--PYHPEHKPPSKKDLVYFENSPDFCYADPSLGH 311
Db.
         367 AGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLH 367
QY
             312 SATLGRTCNVSSLGVDGCDLMCCGRGYKSENREEVSRCNCTFHWCCQVECKTCKTKRLVH 371
Db
         368 ECL 370
Qy
             \mathbf{H}
Do
         372 ECL 374
RESULT 5
061699
                                      377 AA.
    061699
               PRELIMINARY;
AC
    01-AUG-1998 (TrEMBLrel. 07, Created)
DT
    01-JAN-1999 (TrEMBLrel. 09, Last sequence update)
DT
    01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
DT
DΞ
    AmphiWnt1.
    WNT1.
GN
    Branchiostoma floridae (Florida lancelet) (Amphioxus).
OS.
    Eukaryota; Metazoa; Chordata; Cephalochordata; Branchiostomidae;
OC
CC:
    Branchiostoma.
    NCBI TaxID=7739;
OX.
RN
\Re P
    SEQUENCE FROM N.A.
    MEDLINE=20564609; PubMed=11110906;
\mathcal{R}X
    Schubert M., Holland L.Z., Holland N.D., Jacobs D.K.;
RA
    "A Phylogenetic Tree of the Wnt Genes Based on All Available Full-
RT
    Length Sequences, Including Five from the Cephalochordate Amphioxus.";
RT
    Mol. Biol. Evol. 17:1896-1903(2000).
PL
    -!- FUNCTION: PROBABLE DEVELOPMENTAL PROTEIN (BY SIMILARITY).
CC
    -!- SUBCELLULAR LOCATION: POSSIBLY SECRETED AND ASSOCIATES WITH THE
CC
CC
        EXTRACELLULAR MATRIX (BY SIMILARITY).
CC
     - :- SIMILARITY: BELONGS TO THE WNT FAMILY.
    EMBL; AF061974; AAC80432.1; -.
DR.
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
    SMART; SM00097; WNT1; 1.
DR
```

```
PROSITE; PS00246; WNT1; 1.
DR
    Developmental protein; Glycoprotein.
KW
              377 AA; 42401 MW; E9A65F3C7F9E5ECB CRC64;
SQ
    SECUENCE
                       52.3%; Score 1064.5; DB 5; Length 377;
 Query Match
 Best Local Similarity 51.1%; Pred. No. 3.3e-96;
                             60; Mismatches 102;
                                                               Gaps
                                                  Indels
 Matches 191; Conservative
          13 ATLLLALAALPAALAANSSGRWWGI---VNVASSTNL---LTDSKSLQLVLEPSLQLLSR 66
Qy
                                     |:
                                                :
                              | : | | | | : |
           9 AVVLLFLAVVPVERVHAVIGRWWGIASTVAVQEHANMVPGVARKPGSTIMLDPKKHPLNK 68
Db
          67 KORRLIRONPGILHSVSGGLQS-----AVRECKWQFRNRRWNCPTAPGPH---LFGKIV 117
Qу
                                      1::|| ||
                                                 . |
             | | | | | | | | | | | |
          69 KQRRLVRRNPG-----DAGEHRDRRPMLAIKECHHQFSKWRWNCPVNTSDHVNSVFGNIL 123
Db
         118 NRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFG 177
Qy
              124 LRGCTQTAFIYAVMSAAVAHEVGRNCAEGTIETCSCDYRSKGPAGEDWEWGGCSDNVEFG 183
Db
         178 RLFGREFVDSGEKGRD-LRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRL 236
Qу
             1,84 KQFAKQFVDAGEKTKDSVRYLVNMHNNEAGRVAVAENLRRECKCHGMSGSCTLKTCWMRL 243
Db
         237 PTLRAVGDVLRDRFDGASRVI,YGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSP 296
QУ
             244 PNFRDVGDSLKEKFDGASKVAFPDIGNNRGSRAKVTGLVPKNSRHKFPTDNDLVYHERSP 303
Db
         297 NFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVS 356;
ÇΥ.
             304 NFCRNNPRLGFEGTRGRECNVTSRGLDGCDLLCCGRGYATRQEVTKERCNCTFQWCCQVK 363
Db.
         357 CRNCTHTRVLHECL 370
ੁу
               | | |: :| ||
         354 CEECVRTKTIHTCL 377
Db
RESULT 6
STAW8Č
                                PRT;
                                       358 AA.
     Q8MPL8
                PRELIMINARY;
ID
AC
     Q8MPL8;
     01-OCT-2002 (TrEMBLrel. 22, Created)
DT
     01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT
     01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
     Wnt1 protein (Fragment).
DE
GN
     WNT1.
     Platynereis dumerilii (Dumeril's clam worm).
ÓS
     Eukaryota; Metazoa; Annelida; Polychaeta; Palpata; Aciculata;
OC.
     Phyllodocida; Nereididae; Platynereis.
OC
OX
     NCBI TaxID=6359;
RN
     SEQUENCE FROM N.A.
RΡ
     MEDLINE=22182518; PubMed=12194820;
BX
     Prud'homme B., Lartillot N., Balavoine G., Adoutte A., Vervoort M.;
RA
     "Phylogenetic analysis of the Wnt gene family: insights from
RT
     lophotrochozoan members.";
RΤ
     Curr. Biol. 12:1395-1400(2002).
RT.
```

```
DR
     InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
DΈ
    SMART; SM00097; WNT1; 1.
DR
    PROSITE; PS00246; WNT1; 1.
FT
    NON TER
                 1
    SEQUENCE
                       40079 MW;
                                 OB07B1023BCBCE7F CRC64;
SQ
              358 ÅA;
  Query Match
                        50.9%; Score 1037; DB 5;
                                                  Length 358:
                        56.2%; Pred. No. 1.6e-93;
  Best Local Similarity
 Matches 198; Conservative
                             42; Mismatches
                                                   Indels
                                                                Gaps
          39 NVASSTNLLTD--SKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQ 96
             1: 1 : 1 : : : :
                             7 NLAYSISLRDNMLNEVAPIYINPSLQPLTRKQRRVVTRNPGTIVAVAKGARVAIHECQSQ 66
Db
          97 FRNRRWNCPTAP---GPHLFGKIVN-RGCRETAFIFAITSAGVTHSVARSCSEGSIESCT 152
ÛУ
                             : | | |
                                      67 FRNRRWNCPTTEDGRGGSIFGDIFKAAGTRETAFIYAITAAGVTHSVARACSEGSIFTCS 126
Db
                              - GPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMN 199
CY
         153 CDYRRR-
                                    111
         186 REFVOLVESSEPTSAASIPPAATWEWGGCSDNIEFGQRFSREFVDLVEKGRDERYMMN
ر(1
         200-LENNBAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYG-259
÷у
             187 MANNOAGRIHVVSEQHQECKCHGMSGSCTVKTCWMRLAPFRQTGARIKDRFDGASRVYQG 246
DE
         260 NRGSNR-ASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSS 318
674
                          24% NSGNSRNRNRLQKFNLLPVNPNHKSPGPQDLVYFEESPTFCDENRTLGLQGTTGRQCNAS: 306
50
         319 SPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHECL 370
Ûλ
               -:|||:|:|||
                                   1111111111111111
Db
         307 SIGVDGCDLMCCGRGWVEETYLSKERCNCTFHWCCQVTCHICNRTRVRHLCL 358
RESULT 7
Q8MQP9
ID
    Q8MQP9
               PRELIMINARY;
                                PRT;
                                       468 AA.
P.C
    OSMOP9:
DT
    01-OCT-2002 (TrEMBLrel. 22, Created)
    01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT
    01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
\mathbf{T}
DE
    RE02607p.
GN
    WG OR CG4889.
09.
    Drosophila melanogaster (Fruit fly).
065
    Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
00
    Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
    Ephydroidea; Drosophilidae; Drosophila.
CC
XΟ
    NCBI TaxID=7227;
RN
     [1]
    SEQUENCE FROM N.A.
RP
RC
    STRAIN=Berkeley;
RA
    Stapleton M., Brokstein P., Hong L., Agbayani A., Carlson J.,
```

DR

EMBL; AJ491796; CAD37164.1; -.

```
Champe M., Chavez C., Dorsett V., Dresnek D., Farfan D., Frise E.,
RA
    George R., Gonzalez M., Guarin H., Kronmiller B., Li P., Liao G.,
RA.
    Miranda A., Mungall C.J., Nunoo J., Pacleb J., Paragas V., Park S.,
RA
    Patel S., Phouanenavong S., Wan K., Yu C., Lewis S.E., Rubin G.M.,
RA
RA
    Celniker S.;
    Submitted (JUL-2002) to the EMEL/GenBank/DDBJ databases.
RL
    EMBL; AY128458; AAM75051.1; -.
DR
    FlyBase; FBgn0004009; wg.
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt_grthfactor.
DR
    Pfam; PF00110; wnt; 2.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
    PROSITE; PS00246; WNT1; 1.
DR
             468 AA; 51985 MW; F6F0310A70A864E7 CRC64;
    SEOUENCE
SQ
                      50.0%; Score 1018.5; DB 5; Length 468;
 Cuery Match
 Best Local Similarity 45.5%; Pred. No. 1.5e-91;
 Matches 202; Conservative 44; Mismatches 89; Indels 109;
                                                            Gaps
         31 SGR-----WWGIVNVASSTNLLTDSKSLQLVLEPSL-QLLSRKQRRLIRQNPGILHSVSG 84
QV
                   30 SGRGRGSMWWGIAKVGEPNNI----TPIMYMDPAIHSTLRRKQRRLVRDNPGVLGALVK 84
Db
         35 GLOSAVRECKWQFRNRRWNCPT---APGPHLFGKIVNRGCRETAFIFAITSAGVTHSVAR 141
Qy:
            35 GANGAISKCQHQFRNRRWNCSTRNFSRGKNLFGKIVDRGCRETSFIYAITSAAVTHSIAR 144-
                                     --- GGPDWHWGGCSDNIDFGRLFGREFVDSGE 189
         142 SCSEGSIESCTCDY -- RRRGP -- --
CV
            145 ACSEGTIESCTCDYSHQSRSPQANHQAGSVAGVRDWEWGGCSDNIGFGFKFSREFVDTGE 204
         190 KGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDR 349
Qv
            264 RGRNLREKMNLHNNEAGRAHVQAEMRQECKCHGMSGSCTVKTCWMRLANFRVIGDNLKAR
                                ----RGSNRASRAELL-----
         250 FDGASRVLYGN----
Øλ
                                    [[]:[]
         265 FDGATRVQVTNSLRATNALAPVSPNAAGSNSVGSNGLIIPQSGLVYGEEEERMLNDHMPD 324
                                                    RLEPEDPAHKPPSP 286
QУ
                                                    : | | : | | | |
         325 ILLENSHPISKIHHPNMPSPNSLPQAGQRGGRNGRRQGRKHNRYHFQLNPHNPEHKPPGS 384
Db
         297 HDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCN 346
QУ
             1 111
         385 KDLVYLEPSPSFCEKNLRQGILGTHGRQCNETSLGVDGCGLMCCGRGYRRDEVVVVERCA 444
         347 CTFHWCCHVSCRNCTHTRVLHECL 370
QУ
            445 CTFHWCCEVKCKLCRTKKVIYTCL 468
RESULT 8
Q8MZJ5
               PRELIMINARY;
                               PRT;
                                     337 AA.
    Q8MZJ5
ID
AC
    Q8MZJ5;
```

```
01 OCT-2002 (TrEMBLrel. 22, Created)
DT
    01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT
    01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
DE
    Wingless (Fragment).
GN
OS
    Pheidole morrisi.
    Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC
    Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Formicidae;
OC
    Myrmicinae; Pheidole.
OC
OX
    NCBI TaxID=195110;
RN
    [1]
RP
    SEQUENCE FROM N.A.
    Abouheif E., Wray G.A.;
RA
    "Evolution of the Gene Network Underlying Wing Polyphenism in Ants.";
RT
    Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
R\Gamma
    EMBL; AY101369; AAM33135.1; -.
:DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt_grthfactor.
DR
    Pfam; PF00110; wnt; 2.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
    PROSITE; PS00246; WNT1; 1.
DR
    NON TER
TT
                 1
    NON TER
               337
                      337
                                E0DA2498758F33CF CRC64:
     SEQUENCE
              337 AA; 37747 MW;
5Q
                       48.9%; Score 996.5; DB 5;
                                                  Length 337;
  Query Match
  Best Local Similarity 58.6%; Pred. No. 1.4e-89;
  Matches 188; Conservative 35; Mismatches
                                             59;
                                                  Indels 29:
          57 LEPSLOLLSRKORRLIRONPGILHSVSGGLQSAVRECKWQFRNRRWNGET---APGPHLF 113
                   17 MEPVYATLRRKQRRIARENPGVLMAVSRGANQAIAECQYQFRNRRWNCSTKNFLKGKNIF 76
         114 GKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGP---DWHWGGC 170
္စ
             77 GKIVDRGCRETAFIYAITSAAVTHSIARACSEGSIQSCSCDYTHQSHASSAVRDWEWGGC 136
Do
         171 SDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVR 230
             137 SDNIGYGFKFSREFVDTGERGRNLREKMNLHNNEAGRAHVTSEMRQECKCHGMSGSCTVK 196
Db
         231 TCWMRLPTLRAVGDVLRDRFDGASRVLYGNRG--
                                                  -SNRASRA-
Qy
                                                   | \cdot | | \cdot | :
             197 TCWMRLPNFRVVGDNLKDRFDGASRVMVSNSDRARVNNNAITSNSASNSVHQHREGLGRR 256
Db
         270 -- ELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCEL 327
QУ
                 257 QRYNFQLKPYNPEHKPPGQKDLVYVEPSPPFCEKNPKLGILGTYGRQCNDTSIGVDGCDL 316
Db
         328 LCCGRGHRTRTQRVTERCNCT 348
QУ
                        | |||:||
             : | | | | | | : | :
         317 MCCGRGHKTQEVTVIERCSCT 337
Db
```

```
PRELIMINARY;
                                    PRT;
                                           415 AA.
ID
     Q8IPI1
AC
     08IPI1;
     01-MAR-2003 (TrEMBLrel. 23, Created)
DT
     01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT
     01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
     CG4889-PB.
DE
GN
     WG.
     Drosophila melanogaster (Fruit fly).
OS
     Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC
     Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC
     Ephydroidea; Drosophilidae; Drosophila.
OC
OX
     NCBI TaxID=7227;
RN
     [1]
     SEQUENCE FROM N.A.
RΡ
     MEDLINE=20196006; PubMed=10731132;
КX
     Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
\mathbf{P}\mathbf{A}
     Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA
     George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA
     Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA
     Brandon R.C., Rogers Y.H., Blazej R.G., Champe M., Pfeiffer B.D.,
RA
     Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Gabor G.L.,
RA
     Abril J.F., Agbayani A., An H.J., Andrews-Pfannkoch C., Baldwin D.,
RA
     Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
ZA
     Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
KA
     Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
Bir
     Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
PA
     Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
7°C
     de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
ĀΆ
     Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA:
     Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.
DA.
     Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
T
     Glodek A., Gong F. Gorrell J.H., Gu Z., Guan P., Harris M.,
ŔА
     Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA
     Hostin D., Houston K.A., Howland T.J., Wei M.H., Ibegwam C.,
PA
     Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
A.5
     Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA
     Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA
     Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RΑ
     Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA
     Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA
     Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RR
     Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
FA
     Reinert K., Remington K., Saunders R.D., Scheeler F., Shen H.,
\mathbf{R}\mathbf{A}
     Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
\mathbb{R}\mathbf{A}
     Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA
     Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA
     Wang Z.Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA
     Williams S.M., WoodageT, Worley K.C., Wu D., Yang S., Yao Q.A., Ye J.,
RA
     Yeh R.F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA.
     Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
PA
     Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
PA
     "The genome sequence of Drosophila melanogaster.";
RT
     Science 287:2185-2195(2000).
RL
RN
      [2]
RΡ
     SEOUENCE FROM N.A.
     Celniker S.E., Adams M.D., Kronmiller B., Wan K.H., Holt R.A.,
RA
     Evans C.A., Gocayne J.D., Amanatides P.G., Brandon R.C., Rogers Y.,
```

ŖΑ

```
Banzon J., An H., Baldwin D., Banzon J., Beeson K.Y., Busam D.A.,
RA
    Carlson J.W., Center A., Champe M., Davenport L.B., Dietz S.M.,
RA
    Dodson K., Dorsett V., Doup L.E., Doyle C., Dresnek D., Farfan D.,
RA
    Ferriera S., Frise E., Galle R.F., Garg N.S., George R.A.,
RA
    Gonzalez M., Houck J., Hoskins R.A., Hostin D., Howland T.J.,
RA
    Ibegwam C., Jalali M., Kruse D., Li P., Mattei B., Moshrefi A.,
RA
    McIntosh T.C., Moy M., Murphy B., Nelson C., Nelson K.A., Nunoo J.,
RA
    Pacleb J., Paragas V., Park S., Patel S., Pfeiffer B.,
RA
    Phouanenavong S., Pittman G.S., Puri V., Richards S., Scheeler F.,
RA
    Stapleton M., Strong R., Svirskas R., Tector C., Tyler D.,
RA
    Williams S.M., Zaveri J.S., Smith H.O., Venter J.C., Rubin G.M.;
RA
     "Sequencing of Drosophila melanogaster genome.";
RT
    Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RL
RN
    SEQUENCE FROM N.A.
PP
    Misra S., Crosby M.A., Matthews B.B., Bayraktaroglu L., Campbell K.,
PΑ
    Hradecky P., Huang Y., Kaminker J.S., Prochnik S.E., Smith C.D.,
ŔΑ
    Tupy J.L., Bergman C., Berman B., Carlson J.W., Celniker S.E.,
RA
    Clamp M., Drysdale R., Emmert D., Frise E., de Grey A., Harris N.,
RA
     Kronmiller B., Marshall B., Millburn G., Richter J., Russo S.,
RA
     Searle S.M.J., Smith E., Shu S., Smutniak F., Whitfield E.,
RA
    Ashburner M., Gelbart W.M., Rubin G.M., Mungall C.J., Lewis S.E.;
RA
     "Annotation of Drosophila melanogaster genome.";
RT
     Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
PL
-11
     SEQUENCE FROM N.A.
EP.
     Adams M.D., Celniker S.E., Gibbs R.A., Rubin G.M., Venter C.J.;
KX
     Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
\mathbb{A}\mathbf{L}
PN-
     SEQUENCE, FROM N.A.
./P
     FlyBase;
^{2}A
     Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.
\Gamma
     EMBL; AE003617; AAN10628.1; -..
DR
     SEQUENCE 415 AA; 46329 MW; 6220D909225E393A CRC64;
SQ
                                Score 990.5; DB 5;
                         48.6%;
                                                    Length 415;
  Query Match
  Best Local Similarity 46.7%; Pred. No. 7.2e-89;
  Matches 494; Conservative 41; Mismatches
                                                    Indels
                                                                  Gaps
           55 LVLEPSL-QLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPT---APGP 110
QУ
             1 MYMDPAIHSTLRRKORRLVRDNPGVLGALVKGANLAISECQHQFRNRRWNCSTRNFSRGK 60
Db
          111 HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDY--RRRGP----- 160
Q.V
              61 NLFGKIVDRGCRETSFIYAITSAAVTHSIARACSEGTIESCTCDYSHQSRSPQANHQAGS 120
          161 -- GGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQEC 218
QУ
                121 VAGVRDWEWGGCSDNIGFGFKFSREFVDTGERGRNLREKMNLHNNEAGRAHVQAEMRQEC 180
Db
          219 KCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGN-
QУ
                               181 KCHGMSGSCTVKTCWMRLANFRVIGDNLKARFDGATRVQVTNSLRATNALAPVSPNAAGS 240
Db
          264 NRASRAELL-
QУ
                   1:
```

```
241 NSVGSNGLIIPQSGLVYGEEEERMLNDHMPDILLENSHPISKIHHPNMPSPNSLPQAGQR 300
Db
                           RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRAC 315
Qv
                           301 GGRNGRRQGRKHNRYHFQLNPHNPEHKPPGSKDLVYLEPSPSFCEKNLRQGILGTHGRQC 360
Db
         316 NSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHECL 370
QУ
            361 NETSLGVDGCGLMCCGRGYRRDEVVVVERCACTFHWCCEVKCKLCRTKKVIYTCL 415
Db
RESULT 10
Q8MZJ2
               PRELIMINARY;
                               PRT;
                                     334 AA.
ID
    Q8MZJ2
    Q8MZJ2;
    01-OCT-2002 (TrEMBLrel. 22, Created)
    01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT
    01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
    Wingless (Fragment).
DΕ
GN
    WG.
OS
    Formica nitidiventris.
    Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
DO.
    Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Formicidae;
O.C
    Formicinae; Formica.
OC
    NCBI_TaxID=195149;
XC
RN
RP
    SEQUENCE FROM N.A.
    Abouheif E., Wray G.A.;
RA
     "Evolution of the Gene Network Underlying Wing Polyphenism in Ants.";
RT
    Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
RL
ĎR
    EMBL; AY101372; AAM33138.1; -.
     InterPro; IPR005817; Wnt.
DR.
     InterPro; IPR005816; Wnt_grthfactor.
DR
DR
     Pfam; PF00110; wnt; 2.
DR
     PRINTS; PR01349; WNTPROTEIN.
    SMART; SM00097; WNT1; 1.
DR
     PROSITE; PS00246; WNT1; 1.
DR
    NON TER
                       1
FT
                - 1
                     334
    NON TER
               334.
FT
              334 AA; 37495 MW; 58D094810D4A432B CRC64;
     SEQUENCE
SQ
                       48.6%; Score 989; DB 5; Length 334;
  Query Match
                       60.3%; Pred. No. 7.6e-89;
  Best Local Similarity
  Matches 37; Conservative 35; Mismatches 62; Indels
                                                            Gaps
          54 LSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPT---APGPHLFGKIVNRG 120
QУ
             24 LRRKQRRLVRENPGVLQAVARGANQAVAECQHQFRNRRWNCSTKNFLRGKNLFGKIVDKG 83
Db
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDY---RRRGPGGPDWHWGGCSDNIDFG 177
Qy_
             34 CRETAFIYAITSAAVTHSIARACSEGSIQSCSCDYTHQSRTSSAVRDWEWGGCSDNIGYG 143~
Db
         178 RLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLP 237
Qу
               144 FKFSREFVDTGERGRNLREKMNLHNNEAGRTHVSSEMRQECKCHGMSGSCTVKTCWMRLP 203
Db
```

```
238 TLRAVGDVLRDRFDGASRVLYGNRGSNRAS------RAELLR-----LEPE 277
Qy
            1 |
                                                              |:|
        204 SFRVVGDNLKDRFDGASRVMVSNSDRVRSNVHVNSASNSVHQHRDGLARRQRYNFQLKPY 263.
Db
        373 DPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTR 337
QΥ
            264 NPEHKPPGPKDLVYLEQSPAFCEKNPALGILGTHGRQCNDTSLGVDGCDLMCCGRGYKTQ 323
Dι
        338 TORVTERCNC 347
ŊУ
               1 | | | | | |
        324 EVVVIERCNC 333
Db
RESULT 11
Q8MZJ4
                               PRT;
               PRELIMINARY;
ID
    Q8MZJ4
    Q8MZJ4;
    01-OCT-2002 (TrEMBLrel. 22, Created)
DT
    01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DI
    01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT.
    Wingless (Fragment).
DE
GN
    Crematogaster lineolata.
OS.
    Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
roid!
    Neoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Formicidae;
CE
    Myrmicinae; Crematogaster.
66
OX
    NCBI TaxID=195111;
IIN
    [1]
'nΡ
    SEQUENCE FROM N.A.
RA
    Abouheif E., Wray G.A.;
    "Evolution of the Gene Network Underlying Wing Polyphenism in Ants.
RΤ
RL
    Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
DR
    EMBL; AY101370; AAM33136.1; -.
DR
    InterPro; IPR005817; Wnt.
    InterPro; IPR005816; Wnt_grthfactor.
DR
    Pfam; PF00110; wnt; 2.
    PRINTS; PR01349; WNTPROTEIN.
DR
DR
    EMART; SM00097; WNT1; 1.
    PROSITE; PS00246; WNT1; 1.
DR
    NON TER
FΤ
                1
                       1
FT
    NON TER
               337
                     337
              337 AA; 37863 MW;
                              6462D40582CB4274 CRC64;
SQ
    SEQUENCE
                       47.7%; Score 971; DB 5; Length 337;
 Query Match
                       57.1%; Pred. No. 4.6e-87;
 Best Local Similarity
                                           79;
                                                 Indels
 Matches 190; Conservative
                            34;
                                Mismatches
          45 NLLTDŞKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNC 104
Qу
                             5 NFLPMSAS-SIHMERFYATLRRKQRRLAIENPGVLMAVSRGANQAIAECQHQFRNRRWNC 64
Db
         105 PT---APGPHLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDY---RRR 158
Qў
                   65 STKNFLRGKNLFGKIVDRGCRETAFIYAITSAAVTHSIARACSEGSIQLCSCDYTHQSRA 124
Db
         159 GPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQEC 218
Qy
```

```
125 SSAVRDWEWGGCSDNIGYGFKFSREFVDTGERGRNLREKMNLHNNEAGRAHVTSEMRQEC 184
Db
         219 KCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGN----RGSNRASRAEL--- 271
Qy.
             185 KCHGMSGSCTVKTCWMRLPNFRLVGDNLKDRFDGASRVMVSNSDRVRVSNNAITSNSASN 244
Db
                           -LRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRAC 315
Q7
                             245 SVHQHRDGLGRRHRYNFQLKPYNPEHKPPGQKDLVYVEPSPPFCEKNPKLGILGTQGRQC 304
Db
         316 NSSSPALDGCELLCCGRGHRTRTQRVTERCNCT 348
Qy
             ! :| :|||:|:||||||:|:||
         305 NDTSIGVDGCDLMCCGRGHKTQEVTVIERCSCT 337
Db
RESULT 12
O8MZJ3
                                 PRT;
                                       330 AA.
                PRELIMINARY;
ID
     O8MZJ3
AC
     CUZM8C
     01-OCT-2002 (TrEMBLrel. 22, Created)
DT
     01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DΥ
     01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
     Wingless (Fragment).
DE
CN
     WG.
OŚ
     Myrmica americana.
     Bukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Fterygota;
OC
     Weoptera; Endopterygota; Hymenoptera; Apocrita; Aculeata; Formicidae;
OC
     Myrmicinae; Myrmica.
OC
     NCBl TaxID=195148;
QC.
Z.M
     [1]
19 2
    SEQUENCE FROM N.A.
     Abouheif E., Wray G.A.;
2\lambda
     Evolution of the Gene Network Underlying Wing Polyphenism in Ants.
RT
     Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
RI.
     EMBL; AY101371; AAN33137.1; -.
DR
     InterPro; IPR005817; Wnt.
DR
     InterPro; IPR005816; Wnt grthfactor.
DR
     Pfam; PF00110; wnt; 2.
DR
     FRINTS; PR01349; WNTPROTEIN.
LR
     SMART; SM00097; WNT1; 1.
DR
     PROSITE; PS00246; WNT1; 1.
DR
FT
     MON TER
                  1
     NON TER
                330
                       330
\mathbf{F}^{\mathrm{div}_{G}}
               330 AA; 37034 MW; 737B23B0426E39DF CRC64;
     SEQUENCE
SQ
                         46.7%; Score 950.5; DB 5;
                                                    Length 330:
  Query Match
                         55.6%;
                                Pred. No. 4.6e-85;
  Best Local Similarity
  Matches 184; Conservative 36; Mismatches
                                              80;
                                                    Indels
                                                            31:
                                                                 Gaps .
           4.1 ASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNR 100
QУ
               1 AGEPNNFLPMSAASIHMEPIYTTLRRKQRKLARDNPGVLMAVARGANQAITECQHQFRNR 60
Db
          101 RWNCPT---APGPHLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDY-- 155
Qу
                       61 RWNCSTKNFLRGKNLFGKIVDRGCRETAFVYAIASAAVTHSIARACSEGSIQSCSCDYTH 120
Db
```

```
156 -RRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEM 214
Qу
                     Db
         121 OSRASSAVRDWEWGGCSDNIGYGFKFSREFVDTGERGRNLREKMNLHNNEAGRAHVTSEM 180
         215 RQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRG--
QУ
             じり
         181 RQECKCHGMSGSCTVKTCWMRLPNFRVVGDNLKDRFDGASRVMVSNSDRVRVNNNAIMSN 240
                           ---ELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTA 311
Qy
         265 RASRA-
                                 241 SASNSVHQHREGLGRRHRYNFQLKPYNPEHKPPGQKDLVYVEQSPPFCEKNPKLGILGTH 300
Db.
         312 GRACNSSSPALDGCELLCCGRGHRTRTQRVT 342
27
             301 GRQCNDTSIGVDGCDLMCCGRGH--KTQEVT 329
dC
RESULT 13
O3WRF7
                PRELIMINARY;
                                PRT:
ID
     O8WRF7
                                       365 AA.
AC
     Q8WRF7;
     01-MAR-2002 (TrEMBLrel. 20, Created)
DT
     01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT
     01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
ÐТ
     Signaling protein wingless (Fragment).
DE
CN
     WG.
ĆS:
     Mysidium columbiae.
Ó.T
     Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
     Eumalacostraca; Peracarida; Mysidacea; Mysida; Mysidae; Mysidium
XX
    MCBI TaxID=178358;
N
     [1]
RР
     SEQUENCE FROM N.A.
     Duman-Scheel M., Pirkl N., Patel N.H.;
RP.
     "Analysis of the expression pattern of Mysidium columbiae wingless
RT
     provides evidence for conserved mesodermal and retinal patterning
RT
     processes among insects and crustaceans.";
RT
RL
     Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
     -!- FUNCTION: PROBABLE DEVELOPMENTAL PROTEIN (BY SIMILARITY).
CC
CC
     -!- SUBCELLULAR LOCATION: POSSIBLY SECRETED AND ASSOCIATES WITH THE
CC
        EXTRACELLULAR MATRIX (BY SIMILARITY).
CC
     -!- SIMILARITY: BELONGS TO THE WNT FAMILY.
DR
     EMBL; AF438206; AAL37756.1; -.
     InterPro; IPR005817; Wnt.
DR
     InterPro; IPR005816; Wnt grthfactor.
DR
DR.
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
    SMART; SM00097; WNT1; 1.
ĎR
DR
    PROSITE; PS00246; WNT1; 1.
    Developmental protein; Glycoprotein.
KW
FT
    NON TER
               365
                     365
    SEOUENCE
               365 AA; 41260 MW; 45624F91143D4EA1 CRC64;
SO
  Query Match
                        43.1%; Score 878.5; DB 5; Length 365;
  Best Local Similarity 45.9%; Pred. No. 6.5e-78;
  Matches 169; Conservative
                            62; Mismatches 106; Indels
                                                            31; Gaps
                                                                        6:
```

7 LPGWVSATLLI,ALAALPAALAANSSGR-----WWGIVNVASSTNL----LTDSKSLQL 55

QΛ

```
| :| :|||
                                          || :
                                                   : | |
Db
          1 MPAPKGAAFVL-IAALACAFVCEAQARKYKGPKWWNLGLSVDPSNLMSNEILSNSLSDHH 59
          56 VLEPSLOLLSRKORRLIRONPGILHSVSGGLOSAVRECKWQFRNRRWNCPTA----PGP 110
Qу
            60 LSESVQRMLRKKQRRLIRENDGVLVAIAEGAKKAAKSCRYQFRSRRWDCSASRKKKIKRR 119
Db
         111 HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGC 170
QУ
             120 RLFGRIVSIPCRETAFVYALLSAAVLHSVTRACTEGAVHSCSCHYTAK---GDDWEWGGC 176
Db
         171 SDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVR 230
QУ
             177 SENIDFGYRFSRHFVDAGEKTHEIRAAMNLHNNEAGRQHVRAAMRSECKCHGMSGSCTVK 236
Db
                                              --YGNRGSNRASRAELLRLEPEDP 279
QΫ
         231 TCWMRLPTLRAVGDVLRDRFDGASRVL-----
             1 | : | : | :|
         237 TCWSRLPHFKQIGDRLKEKFDGASRVMSRHTAHMQRRSNSRRRSIKRKRRKNLDLQPYNP 296
Db
         280 AHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQ 339
Qу
             297 DHKSPSAMDLVYLOESPNFCVRNRTLGIPGTSERECNGTSIGVEGCNLMCCGRGYSSRVV 356
Ŋ'n
         340 RVTERCNC 347
QΫ
            | | | | | : |
Db
         357 EVVERCSC 364
PESULT 14
COTX64
               PRELIMINARY:
                                PRT:
                                      303 AA.
IJ
    Q9TX64
/ C
    Q9TX61;
    01-MAY-2000 (TrEMBLrel. 13, Created)
DT.
    01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT
    01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
ЮT
DE
    Wingless product (Fragment).
OS
    Tribolium castaneum (Red flour beetle).
OC.
    Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
    Neoptera; Endopterygota; Coleoptera; Polyphaga; Cucujiformia;
OC
OC
    Tenebrionidae; Tribolium.
OX
    NCBI TaxID=7070;
SN
RP
    SEQUENCE FROM N.A.
RX
    MEDLINE=94150623; PubMed=8107804;
    Nagy L.M., Carroll S.;
RA
    "Conservation of wingless patterning functions in the short-germ
RT
PT
    embryos of Tribolium castaneum.";
RL
    Nature 367:460-463(1994).
    - F- FUNCTION: PROBABLE DEVELOPMENTAL PROTEIN (BY SIMILARITY).
CC
    -!- SUBCELLULAR LCCATION: POSSIBLY SECRETED AND ASSOCIATES WITH THE
CC
        EXTRACELLULAR MATRIX (BY SIMILARITY).
CC
    -!- SIMILARITY: BELONGS TO THE WNT FAMILY.
CC
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt_grthfactor.
DR
DR
    Pfam; PF00110; wnt; 1.
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
```

```
PROSITE; PS00246; WNT1; 1.
DR
KW
    Developmental protein; Glycoprotein.
FT
    NON TER
    NON TER
               303
                      303
FT
               303 AA; 33828 MW; E2B367EBC6A59885 CRC64;
    SEQUENCE
SQ
                        42.6%; Score 866.5; DB 5;
                                                   Length 303;
 Query Match
                       53.5%; Pred. No. 7.7e-77;
 Best Local Similarity
                                                   Indels
                                                                Gaps
 Matches 162; Conservative
                             39; Mismatches
         109 GPHLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCD--YRRR----GPGG 162
Qу
             1 11
           1 GKNLFGKIVDKGCRETAFIYAITSAAVTHAIARACSEGSIDTCNCETHYKGRPHVSGNGG 60
Db
         163 -----PDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQ 216
ÇУ
                   1: | | | | | | | | | | | | | | |
                                    61 GALAGVRDFEWGGCSDN1GFGFTVSREFVDAGERGKT1REKMNLHNNEAGRWHVKDQMRQ 120
Db
         217 ECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYG--NRGSNRA------ 266
Qу
             : | : | |
         121 ECKCHGMSGSCTIKTCWMRLPPFRVIGDLLKDRFDGASHVAASGHHRNNNNAHQNRPPKN 180
Db
                      --SRAELLR-----LEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGT 307
ΩУ
                                     1:1:1
                                                  : : | |
                        1: | |
         181. PKLNAISSNSIHSKRENRRKHKYGFQLKPFNPEHKPPGTKDLVYYEMSPGFCEKNPKLGI 240
Die
         308 AGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLH 367
              221 QGTHGRLCNDTSMGVDGCDIMCCGRGYRTQEVVVFERCNCTFHWCCEVKCDVCRTKRTIH 30.0
Ph
         368 ECL 370
              | :
         301 TCV 303
RESULT 15
Q8IUM6
                PRELIMINARY;
                                PRT;
                                       351 AA.
ĮD
     OBIUM6
AC
    Q8IUM6;
     01-MAR-2003 (TrEMBLrel. 23, Created)
UT
     01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT
     01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DT
DE
     WNT4.
     WNT4.
GN
     Homo sapiens (Human).
OS
     Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
     Mammalia; Eutheria; Primațes; Catarrhini; Hominidae; Homo.
DÓ.
OX
     NCBI TaxID=9606;
RN
     [1]
     SEQUENCE FROM N.A.
RP
RC
     TISSUE=Fetal;
     Saitoh T., Hirai M., Katoh M.;
RA
     "Molecular cloning and characterization of WNT4 on human chromosome
RT
RT
     1p35.1-p36.23.";
     Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
RL
     EMBL; AB061675; BAC23080.1; -.
DR
               351 AA; 39065 MW; E1080A52099AA020 CRC64;
SQ
```

	Query Ma	itch		41.2%;	Score	838;	DB 4;	Lengt	h 351;			
	Best Loc Matches	261 161	Similarity L; Conserva	44.8%; tive 5!	Pred. 5; Mis	NO. 60 smatch	e-/4; es 123	3; Ind	els	20;	Gaps	4 ;
Q;	7	14	TLLLALAALPA	ALAANSSGI    :	RWWGIVI	VASSTI	NLLTDSF	KSLQLVI ::::	EPSLQL  :	LSRKQ	RRLIR	73
DÌ	0	9	SLRLLVFAVFS	AAASN	ŴLYLA	KLSSV	GSISEEE	ETCE	KLKG	LIQRQ	VQMCK	58
Q	Y	74	QNPGILHSVSG									133
D.	o c	59	RNLEVMDSVRR	GAQLAIEE	CQYQFRI	IRRWNC.	I STLDSLI	PVFGKVV	TQGTRE	AAFVY	AISSA	118
Q:	Υ·	134	GVTHSVARSCS									192
Dl	b.	119	:   :   GVAFAVTRACS	SGELEKCG	II CDRTVH(	I GVTPQG	FQWSGCS	SDNIAYC	VAFSQS	FVDVR	ERSKG	178
Q	Y .	193	DLRFLMNLH	NNEAGRTT	VFSEMR(	QECKCH	GMSGSC7	TVRTCWM	RLPTLR	LAVGDV II	LRDRF	250
D)	b	179	 ASSSRALMNLH	 NNEAGRKA	: :    ILTHMR\	/ECKCH	GVSGSCI	EVKTCWR	AVPPFR	I I LQVGHA	LKEKF	238
Q	У	251	DGASRVLYGNR							YSGRL	GTAGT	310
D.	Ь	239	:   DGATEVEPRRV	:   GSSRA	[\rightarrow]	I : PRNAQF	II : KPHTDEI	DLVYLEF	SPDFCE	I QDMRS	GVLGT	291
Q	Y	312	AGRACNSSSPA									869.
ŗ.	b	292	RGRICNKISKA	IDGCELLC	CGRGFH	LAQVEL	AERCSCI	KFHWCCF	'VKCRQC	'QRLVE	ELHTC 3	350,

Search completed: January 21, 2004, 10:48:12 Job time: 44 secs

## GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on:

January 21, 2004, 10:37:56; Search time 17 Seconds

(without alignments)

1023.522 Million cell updates/sec

Title:

US-09-674-292-1

Perfect score:

2036

Sequence:

1 MGLWALLPGWVSATLLLALA......WCCHVSCRNCTHTRVLHECL 370

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched:

127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters:

127863

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post processing: Minimum Match 0%

WITHINGS PACCITOR

Maximum Match 100%

Listing first 45 summaries

Database :

SwissProt\_41:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

		र्ह					*
Result		Query				*	
No.	Score	Match	Length	DB	IĎ	. Descrip	tion
1	2036	100.0	370	1	WNT1_HUMAN	P04628	homo sapien
2	2021	99.3	370	1	WNT1_MOUSE	P04426	mus musculu
3	1671	82.1	369	1	WNT1_AMBME	P21551	ambystoma m
4	1595	78.3	370	- 1	WNT1_BRARE	P24257	brachydanio
5.	1463	71.9	371	1	WNT1_XENLA	P10108	xenopus lae
6	1063.5	52.2	392	1	WNT1_BOMMO	P49340	bombyx mori
7.	1022.5	50.2	468	1	WNTG_DROME	P09615	drosophila
8	843.5	41.4	352	1	WN3A_MOUSE	P27467	mus musculu
9 .	843.5	41.4	355	1	WNT3_MOUSE	P17553	mus musculu
10	943	41.4	351	1	WNT4_XENLA	P49338	xenopus lae
11	840.5	41.3	355	1	WNT3_HUMAN	P56703	homo sapien
12	340	41.3	351	1	WNT4_HUMAN	P56705	homo sapien
1.3	836	41.1	351	1	WNT4_MOUSE	P22724	mus musculu
14	836	41.1	351	1	WNT4 RAT	Q9qxq5	rattus norv
15	83.2	40.9	351	1	WNT4_CHICK	P49337	gallus gall
16	827.5	40.6	352	1	WN3A_HUMAN	P56704	homo sapien
17	822.5	40.4	352	1	WN3A XENLA	P31285	xenopus lae

219 5	40 3	352	1	WN4A BRARE		P47793	brachydanio
				_			strongyloce
							homo sapien
							homo sapien
						_	homo sapien
							mus musculu
				<del>_</del>			mus musculu
•				<del>_</del>			mus musculu
				_			xenopus lae
				<del>_</del>			rattus norv
				<b>—</b>			mus musculu
				_		P41221	homo sapien
				<del>_</del>		042122	oryzias lat
			1	<b>—</b>		Q92048	brachydanio
			1				pleurodeles
			1	<del>_</del>		P31286	xenopus lae
			1	WN5A AMBME		Q06442	ambystoma m
			1	WNT5 BRARE		Q92050	brachydanio
			1			Q9gzt5	homo sapien
			1			P22726	mus musculu
		359	1	_		Q9h1j7	homo sapien
	36.4	417	1	WN1A MOUSE		P70701	mus musculu
	36.4	364	1	WN16 MOUSE		Ó9qys1	mus musculu
	35.9	365	1	WN16 HUMAN		Q9ubv4	homo sapien
729		363	. 1	WNT5 HALRO		015978	halocynthia
728.5	35.8	357	1.	WN5B AMBME		Q06443	ambystoma m
724.5	35.6	360	1	WN5C_XENLA		P33945	xencpus lae
722.5	35.5	142	1	WN1A_BPARE		P43446	brachydanio
	728.5 $724.5$	815.5       40.1         792       38.9         787.5       38.7         785       38.6         784       38.5         781       38.4         780.5       37.9         772       37.9         769       37.8         766.5       37.6         762.5       37.5         760       37.3         758       37.2         754.5       37.1         753       37.0         747       36.7         743.5       36.5         742.5       36.5         742       36.4         730.5       35.8         729       35.8         724.5       35.8         724.5       35.6	815.5       40.1       223         792       38.9       391         787.5       38.7       365         785       38.6       360         784       38.5       389         781       38.4       360         780.5       38.3       364         772.5       37.9       379         769       37.8       379         766.5       37.6       365         762.5       37.5       371         760       37.3       350         758       37.2       359         745.5       37.1       380         753       37.0       359         747       36.7       417         743.5       36.5       359         742.5       36.4       417         741       36.4       364         730.5       35.9       365         729       35.8       363         728.5       35.8       357         724.5       35.6       360	815.5       40.1       223       1         792       38.9       391       1         787.5       38.7       365       1         785       38.6       360       1         784       38.5       389       1         780.5       38.3       364       1         772.5       37.9       351       1         772       37.9       379       1         769       37.8       379       1         760.5       37.6       365       1         762.5       37.5       371       1         760       37.3       350       1         758       37.2       359       1         753       37.0       359       1         747       36.7       363       1         743.5       36.7       417       1         743.5       36.5       359       1         742.5       36.4       417       1         742.5       36.4       417       1         742.5       36.4       417       1         743.5       35.8       365       1         729.5	815.5	815.5	815.5       40.1       223       1       WNT1_STRPU       P28094         792       38.9       391       1       WN2B_HUMAN       Q93097         787.5       38.7       365       1       WNT6_HUMAN       Q9y6f9         785       38.6       360       1       WNT2_HUMAN       P09544         784       38.5       389       1       WN2B_MOUSE       O70283         781       38.4       360       1       WNT2_MOUSE       P21552         760.5       38.3       364       1       WNT6_MOUSE       P22727         772.5       37.9       351       1       WN2B_XENLA       P87387         772       37.9       379       1       WN5A_RAT       Q9qxq7         769       37.8       379       1       WN5A_MOUSE       P22725         766.5       37.6       365       1       WN5A_HUMAN       P41221         760.5       37.3       350       1       WNT2_BRARE       Q92048         758       37.1       380       1       WN5A_PLEWA       O13267         754.5       37.1       380       1       WN5A_PLEWA       Q92048         753

## ALIGNMENTS

```
RESULT 1
WNT1 HUMAN
                     STANDARD;
                                     PRT;
                                             370 AA.
     WNT1 HUMAN
ID
AC
     P04628;
     13-AUG-1987 (Rel. 05, Created)
DT
     13-AUG-1987 (Rel. 05, Last sequence update)
\Gamma T
     15-SEP-2003 (Rel. 42, Last annotation update)
\mathcal{D}\mathrm{T}
     Wnt-1 proto-oncogene protein precursor.
DE:
     WNT1 OR INT1.
GN
OS
     Homo sapiens (Human).
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
     Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
O.C
     NCBI TaxID=9606;
XO.
RN.
     [11]
     SEQUENCE FROM N.A.
RΡ
     MEDLINE=86055728; PubMed=2998762;
RX :
     van Ooyen A., Kwee V., Nusse R.;
RA
      "The nucleotide sequence of the human int-1 mammary oncogene;
RT
     evolutionary conservation of coding and non-coding sequences.";
RT
     EMBO J. 4:2905-2909(1985).
ŔГ
      -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
          TRANSMEMBRANE RECEPTORS. PROBABLE DEVELOPMENTAL PROTEIN. MAY BE A
CC
          SIGNALING MOLECULE IMPORTANT IN CNS DEVELOPMENT. IS LIKELY TO
CC
          SIGNAL OVER ONLY FEW CELL DIAMETERS.
CC.
```

```
-!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
CC
       extracellular matrix.
    -!- SIMILARITY: Belongs to the Wnt family.
CC
CC
    This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
    between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
    the European Bioinformatics Institute. There are no restrictions on its
CC
    use by non-profit institutions as long as its content is in no way
CC
    modified and this statement is not removed. Usage by and for commercial
CC
    entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
CC
    or send an email to license@isb-sib.ch).
    CC
    EMBL; X03072; CAA26874.1; -.
DR
    PIR; A24674; TVHUT1.
DR
    Genew; HGNC:12774; WNT1.
DR
DR
    MIM; 164320; -.
    GO; GO:0007417; P:central nervous system development; TAS.
DR
    GO; GO:0007345; P:embryogenesis and morphogenesis; TAS.
DR
    GO; GO:0007048; P:oncogenesis; TAS.
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
    PROSITE; PS00246; WNT1; 1.
    Wnt signaling pathway; Developmental protein; Proto-oncogene;
淵
    Glycoprotein; Signal.
KU
    SIGNAL 1
                    27
                             POTENTIAL.
                             WNT-1 PROTO-ONCOGENE PROTEIN.
ZT.
               28
                     370
    CHAIN
             29
$ T
                     29 .
                             N-LINKED (GLCNAC. . .) (POTENTIAL).
    CARBOHYD
T
              316
                     3.16
                              N-LINKED (GLCNAC. .) (POTENTIAL).
    CARBOHYD
                             N-LINKED (GLCNAC .) (POTENTIAL).
               346
                     346
PT
    CARBOHYD
                     359
              359
                             N-LINKED (GLCNAC. . . .) (POTEWITAL)
F^{*}T
    CARBOHYD
    SEQUENCE 370 AA; 40981 MW; F7E8111DA12E173F CRC64;
                       100.0%; Score 2036; DB 1; Length 370;
 Query Match
 Best Local Similarity 100.0%; Pred. No. 9.3e-171;
                                            0; Indels
 Matches 370; Conservative 0; Mismatches
                                                             Gaps
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qy
            1 MCLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
         61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Qŷ.
         61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
QУ
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Db
         181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
QΥ
         181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Db
         241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Qv
```

```
Db
          241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Qу
          301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNC 360
              301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Db
QУ
          361 THTRVLHECL 370
              11111111
          361 THTRVLHECL 370
RESULT 2
WNT1 MOUSE 1
     WNT1 MOUSE
                    STANDARD;
                                    PRT;
TD
                                           370 AA.
AC
     P04426;
DT.
     13-AUG-1987 (Rel. 05, Created)
DT
     13-AUG-1987 (Rel. 05, Last sequence update)
DT
     15-SEP-2003 (Rel. 42, Last annotation update)
DE
     Wnt-1 proto-oncogene protein precursor.
GN
     WNT1 OR WNT-1 OR INT-1.
     Mus musculus (Mouse).
OS
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
OC.
     Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
     NCBI_TaxID=10090;
OX
ЗN
     [1]
DЪ
     SEQUENCE FROM N.A.
ac
     STRAIN=C3H;
     MEDLINE-85024897; PubMed=5091914;
ЖK
     Ooyen A.V., Nusse R.;
RA
WT
     "Structure and nucleotide sequence of the putative mammary oncogene
Tarite.
     int-1; proviral insertions leave the protein-encoding domain
PF
     intact.";
د زیج
     Cell 39:233-240(1984).
\Re N
     [2]
RP
     SEQUENCE FROM N.A.
     MEDLINE=86310810; PubMed=3018519;
RX
     Fung Y.-K.T., Shackleford G.M., Brown A.M.C., Sanders G.S.,
RA
RA
     Varmus H.E.;
RT
     "Nucleotide sequence and expression in vitro of cDNA derived from
RT
     mRNA of int-1, a provirally activated mouse mammary oncogene.";
     Mol. Cell. Biol. 5:3337-3344(1985).
PL.
RN
     [3]
RP
     SEQUENCE FROM N.A.
RX
     MEDLINE=91122634; PubMed=2279700;
RA.
     Gavin B.J., McMahon J.A., McMahon A.P.;
\mathbf{RT}
     "Expression of multiple novel Wnt-1/int-1-related genes during fetal
RT
     and adult mouse development.";
RL
     Genes Dev. 4:2319-2332(1990).
RN
     [4]
     SEQUENCE FROM N.A.
ŔΡ
RC
     STRAIN=Czech II;
RX
     MEDLINE=22388257; PubMed=12477932;
     Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA
RA
     Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
     Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
PΑ.
RA
     Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
     Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA:
```

```
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA
     Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA
     Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA
     Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA
     Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA
     Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA
     Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA
     Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
ŔA
     Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA
     Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA
     Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA
     Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RA
     "Generation and initial analysis of more than 15,000 full-length
RT
     human and mouse cDNA sequences.";
\mathbf{r}\mathbf{g}
     Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RL
RΝ
     [5]
     POSSIBLE FUNCTION.
RP
     MEDLINE=90363290; PubMed=2202907;
ŔХ
     Thomas K.R., Capecchi M.R.;
RA.
     "Targeted disruption of the murine int-1 proto-oncogene resulting in
RT
     severe abnormalities in midbrain and cerebellar development.";
RT
     Nature 346:847-850(1990).
RI.
ľΝ
     DEVELOPMENTAL STAGE.
RP
     STRAIN=CBA/CA; TISSUE=Embryo;
RC
     MEDLINE=87244326; PubMed=3594565;
RX
     Wilkinson D.G., Bailes J.A., McMahon A.P.;
PA
     *Expression of the proto-oncogene int-1 is restricted to specific
\mathbf{T}
     neural cells in the developing mouse embryo.";
P.T
     Cell 50:79-88(1987).
RL
ΣN
     [7]
     TISSUE SPECIFICITY.
RP
RC
     STRAIN=ICR;
     MEDLINE=87244327; PubMed=3594566;
RX
     Shackleford G.M., Varmus H.E.;
\mathbb{R}A
     "Expression of the proto-oncogene int-1 is restricted to postmeiotic
RT
     male germ cells and the neural tube of mid-gestational embryos.";
ŔT
     Cell 50:89-95(1987).
RL
     THE FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
         TRANSMEMBRANE RECEPTORS. PROBABLE DEVELOPMENTAL PROTEIN. MAY BE A
CC
          SIGNALING MOLECULE IMPORTANT IN CNS DEVELOPMENT. IS LIKELY TO
CC
         SIGNAL OVER ONLY FEW CELL DIAMETERS. PROEMINENT ROLE IN THE
CC
          INDUCTION OF THE MESENCEPHALON AND CEREBELLUM. MAY PLAY A CRUCIAL
CC
          ROLE IN THE MORPHOGENESIS OF THE NEURAL TUBE AND/OR THE EARLY
CC
          STAGES OF CNS DEVELOPMENT.
CC
      -:--SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
       extracellular matrix.
CC
      -!- TISSUE SPECIFICITY: TESTIS AND MID-GESTATIONAL EMBRYOS. IN THE
CC
          TESTIS, DETECTED ONLY IN POSTMEIOTIC GERM CELLS UNDERGOING
CC
          DIFFERENTIATION FROM ROUND SPERMATIDS INTO MATURE SPERMATOZOA. IN
CC
          THE EMBRYOS, EXPRESSION IS RESTRICTED TO THE DEVELOPING CNS IN
CC
          REGIONS OF THE NEURAL TUBE OTHER THAN THE TELENCEPHALON.
CC
      -:- DEVELOPMENTAL STAGE: ACCUMULATES THROUGHOUT THE NEURAL PLATE AT
CC
          THE ANTERIOR HEAD FOLDS OF THE 9 DAY EMBRYO BUT ONLY AT ITS
CC
          LATERAL TIPS IN MORE POSTERIOR REGIONS. FOLLOWING NEURAL TUBE
CC
          CLOSURE, EXPRESSION IS RESTRICTED TO SPECIFIC REGIONS OF THE
CC
          DORSAL WALL OF THE BRAIN VENTRICLES AND SPINAL CORD, THE VENTRAL
```

CC

```
WALL OF THE MIDBRAIN AND THE DIENCEPHALON, AND THE LATERAL WALLS
CC
        OF THE NEUROEPITHELIUM AT THE MIDBRAIN-HINDBRAIN JUNCTION.
CC
    -!- DISEASE: MANY MOUSE MAMMARY TUMORS INDUCED BY MOUSE MAMMARY TUMOR
CC
        VIRUS (MMTV) CONTAIN A PROVIRUS INTEGRATED INTO A HOST CELL REGION
CC
        WHICH HAS BEEN NAMED INT-1 (NOW WNT-1).
CC
    -!- SIMILARITY: Belongs to the Wnt family.
CC
CC
    This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
    between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
    the European Bioinformatics Institute. There are no restrictions on its
CC
    use by non-profit institutions as long as its content is in no way
CC
    modified and this statement is not removed. Usage by and for commercial
CC
    entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
    or send an email to license@isb-sib.ch).
CC
CC
     EMBL; K02593; AAA39321.1; -.
DR
     EMBL; M11943; AAA39322.1; -.
DR
    EMBL; BC005449; AAH05449.1; -.
DR
     PIR; A23447; TVMST1.
DR
     MGD; MGI:98953; Wntl.
DR
     InterPro; IPR005817; Wnt.
DR
     InterPro; IPR005816; Wnt_grthfactor.
DR
     Pfam; PF00110; wnt; 1.
DR
     PRINTS; PR01349; WNTPROTEIN.
DR
     SMART; SM00097; WNT1; 1.
DR
     PROSITE; PSC0246; WNT1; 1.
DR.
     Wnt signaling pathway; Dévelopmental protein; Proto-oncogene;
KW
     Glycoprotein; Signal.
KW
            1
                      27
                               POTENTIAL.
PT
     SIGNAL
                               WNT-1 PROTO-ONCOGENE PROTEIN.
                 28
                      37.0
ST.
     CHAIN
                              N-LINKED (GLCNAC. . .) (POTENTIAL).
é"T
     CARBOHYD
                29
                     29
                               N-LINKED (GLCNAC. . .) (POTENTIAL).
PT
     CARBOHYD
               316
                      316
                               N-LINKED (GLCNAC. . .) (POTENTIAL).
\pm T
     CARBOHYD
               346
                      346
                               N-LINKED (GLCNAC. . ) (POTENTIAL) .
FT
     CARBOHYD
               359
                      359
               370 AA; 41085 MW; 02EEB23109231A40 CRC64;
SO
     SEQUENCE
                               Score 2021; DB 1; Length 370;
                        99.3%;
  Query Match
  Best Local Similarity 98.9%; Pred. No. 1.9e-169;
                                               3; Indels
                            1; Mismatches
  Matches 366; Conservative
           1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
             1 MGLWALLPSWVSTTLLLALTALPAALAANSSGRWWGIVNIASSTNLLTDSKSLQLVLEPS 60
Db
          51 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
QY
             61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
QУ
             121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Db
          181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
QУ
             191 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Db
          241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
 Qv.
```

```
241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Db
         301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Qу
             301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Db
         361 THTRVLHECL 370
Q۶÷
             361 THTRVLHECL 370
Db
RESULT 3
WNT1 AMBME
                                        369 AA.
                                 PRT;
    WNT1 AMBME
                   STANDARD;
    P21551;
A.C
     01-MAY-1991 (Rel. 18, Created)
DΤ
     01-MAY-1991 (Rel. 18, Last sequence update)
DT
     15-SEP-2003 (Rel. 42, Last annotation update)
TC
     Wnt-1 protein precursor.
DE
     WNT-1.
GN
     Ambystoma mexicanum (Axolot1).
OS
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
O.C.
     Amphibia; Batrachia; Caudata, Salamandroidea; Ambystomatidae;
OC
GC .
     Ambystoma.
     NCBI Tax1D=8296;
OX.
V_{i}N_{i}
     [1]
     SEQUENCE FROM N.A.
EP
     MEDLINE=91081334; PubMed=2259633;
\mathbb{R}X
     Susse J., Guay J., Seguin C.;
RA
     "Nucleotide sequence of a cDNA encoding Wnt-1 of the Mexican axoloti
\dot{\Omega}T
     Ambystoma mexicanum.";
T
ŔĽ
     Nucleic Acids Res. 18:7439-7439(1990).
T:N
     [2]
RP
     ERRATUM.
     MEDLINE=91204483; PubMed=2017393;
ŘΧ
     Busse U., Guay J., Seguin C.;
ξA
     Nucleic Acids Res. 19:981-981(1991).
RL
\mathbf{N}
     [3]:
     CHARACTERIZATION.
ŔР
     MEDLINE=93285407; PubMed=8508949;
RX -
     Busse U., Seguin C.;
PA
     "Molecular analysis of the Wnt-1 proto-oncogene in Ambystoma
RТ
     mexicanum (axolotl) embryos.";
RT
     Differentiation 53:7-15(1993).
RL
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
         TRANSMEMBRANE RECEPTORS. PROBABLE DEVELOPMENTAL PROTEIN. MAY BE A
CC
         SIGNALING MOLECULE IMPORTANT IN CNS DEVELOPMENT. IS LIKELY TO
CC
         SIGNAL OVER ONLY FEW CELL DIAMETERS.
CC
     -!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
         extracellular matrix.
CC
     - DEVELOPMENTAL STAGE: EARLY BLASTULA UNTIL GASTRULATION, BARELY
CC
         EXPRESSED DURING GASTRULATION AND PRESENT AGAIN FROM NEURULATION
CC
         UNTIL LATE EMBRYOGENESIS.
CC
     -!- SIMILARITY: Belongs to the Wnt family.
CC
     _______
CC
     This SWISS-PROT entry is copyright. It is produced through a collaboration
CC.
```

```
between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
    the European Bioinformatics Institute. There are no restrictions on its
CC
    use by non-profit institutions as long as its content is in no way
CĊ
    modified and this statement is not removed. Usage by and for commercial
CC
    entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
    or send an email to license@isb-sib.ch).
CC
CC
DR
    EMBL; X55270; CAA38991.1; -.
    PIR; S13721; S13721.
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt_grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
DR
    PRINTS; PR01349; WNTPROTEIN.
    SMART; SM00097; WNT1; 1.
DR
DR
    PROSITE; PS00246; WNT1; 1.
KW
    Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
FT
              1 19
                            POTENTIAL.
    SIGNAL
    CHAIN
               20
                    369
                            WNT-1 PROTEIN.
FΤ
                            N-LINKED (GLCNAC. . .) (POTENTIAL).
FT
    CARBOHYD
              28
                    28
    CARBOHYD 277
                    277.
                          N-LINKED (GLCNAC. . .) (POTENTIAL) .
                            N-LINKED (GLCNAC. . .) (POTENTIAL).
FT
    CARBOHYD
             315
                    315
             358
                    358
                            N-LINKED (GLCNAC. . .) (POTENTIAL).
FT
    CARBOHYD
             369 AA; 41383 MW; DC215A620F619321 CRC64;
    SEQUENCE
SQ
                     82.1%; Score 1671; DB 1; Length 369;
 Query Match
 Best Local Similarity 81.7%; Pred. No. 8e-139;
 Matches 290; Conservative 37; Mismatches 28; Indels
         15 LLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQN 75
         15 TLAFSSLSNTLAVNNSGRWWGVVNVVTSTNLLTDTKNVQLVLDPSLQLLSRKQRKLTRQN 74
         💯 PGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSAGV 135
           75 PGILHSINSGLQSAMKECKWQFRSRRWNCPTTGGDNIFGKIVNKGCRETAFIFAITSAGV 134
Dρ
Qу
        136 THSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLR 195
           135 THSVARSCSEGSIESCTCDYRRRGPGGTDWHWGGCSDNIDFGRVFGREFVDSSERGRDLR 194
Tio
        196 FLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASR 255-
           195 YLMNRHNNEAGRMTVFSEMKQECKCHGMSGSCAVRTCWMRLPTFRAVGDFLKDRFDGASR 254
        256 VLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRAC 315
Qу
           255 VIYGNKGSNRASRVQTHHLEPENPTHKPPSPQDLVYFEKSPNFCTYNGKTGTSGTSGRVC 314
Db
        346 NSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHECL 370
Qу
           315 NSSSLGLDGCELLCCGRGYRTKTQRVTERCHCTFHWCCHVSCLNCTNTQVLHECL 369
Th:
```

RESULT 4
WNT1\_BRAPE

ID WNT1\_BRARE STANDARD; PRT; 370 AA.

AC P24257;

```
01-MAR-1992 (Rel. 21, Created)
    01-MAR-1992 (Rel. 21, Last sequence update)
DT
    15-SEP-2003 (Rel. 42, Last annotation update)
DT
    Wnt-1 protein precursor.
DΕ
GN
    WNT1 OR WNT-1.
    Brachydanio rerio (Zebrafish) (Danio rerio).
OS
    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
    Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC
OC
     Cyprinidae; Danio.
    NCBI_TaxID=7955;
OX
RN
     [1]
     SEQUENCE FROM N.A.
RΡ
     MEDLINE=91184125; PubMed=2009859;
RX
     Molven A., Njolstad P.R., Fjose A.;
RA
     "Genomic structure and restricted neural expression of the zebrafish
RT
     wnt-1 (int-1) gene.";
RT
     EMBO J. 10:799-807(1991).
RĹ
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
         TRANSMEMBRANE RECEPTORS. PROBABLE DEVELOPMENTAL PROTEIN. MAY BE A
CC
         SIGNALING MOLECULE IMPORTANT IN CNS DEVELOPMENT. IS LIKELY TO
CC
         SIGNAL OVER ONLY FEW CELL DIAMETERS.
CC
     -!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
         extracellular matrix.
CC
     -!- SIMILARITY: Belongs to the Wnt family.
CC
     CC
     This Swiss-PROT entry is copyright. It is produced through a collaboration
CC
     between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
     the European Bioinformatics Institute. There are no restrictions on its
CC
    use by non-profit institutions as long as its content is in To way
.cc
     modified and this statement is not removed. Usage by and for commercial
CC
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
:CC
     or send an email to license@isb-sib.ch).
C'C
     CC
     EMBL; X58880; CAA41687.1; -.
DR
     EMBL; X58881; CAA41687.1; JOINED.
DR
DR
     EMBL; X58882; CAA41687.1; JOINED.
     EMBL; X58883; CAA41687.1; JOINED.
DR
DR
     PIR; S15013; S15013.
DR
     ZFIN; ZDB-GENE-980526-526; wnt1.
     InterPro; IPR005817; Wnt.
1372
DR
     InterPro; IPR005816; Wnt grthfactor.
     Pfam; PF00110; wnt; 1.
DR
     PRINTS; PR01349; WNTPROTEIN.
ŊR
     SMART; SM00097; WNT1; 1.
DR
     PROSITE; PS00246; WNT1; 1.
DR
     Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
~W
                       19
                                 POTENTIAL.
\mathbf{F}\mathbf{T}
     SIGNAL
                  1
                  20
                        370
                                 WNT-1 PROTEIN.
FT
     CHAIN
                        2.8
                                 N-LINKED (GLCNAC. . .) (POTENTIAL)...
                  28
\Sigma T
     CARBOHYD
                                 N-LINKED (GLCNAC. . .) (POTENTIAL).
F^{i}F
     CARBOHYD
                 316
                        316
                                 N-LINKED (GLCNAC. . .) (POTENTIAL).
                 359
                      359
FT
     CARBOHYD
                370 AA; 41010 MW; F2AB0A82DB031D3E CRC64;
     SEQUENCE
SQ
                         78.3%; Score 1595; DB 1; Length 370;
  Query Match
  Best Local Similarity 75.7%; Pred. No. 3.6e-132;
                                                                2; Gaps
  Matches 281; Conservative 47; Mismatches 41; Indels
                                                                            2;
```

100

```
1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLOLVLEPS 60
Qу
                                   | | | :| :::|
          1 MRVLALLLA-VKAACVLLVSSLTGTGAVNNSGRWWGIVNVASSGNLLTNSKNVQLVLDPS 59
Db
         51 LOLLSRKORRLIRONPGILHSVSGGLQSAVRECKWOFRNRRWNCPTAPGPHLFGKIVNRG 120
ÇΆ
            1::||||||
         60 LALLSRRORKLIRONPGILHAIAAGLHTAIKECKWQFRNRRWNCPTTHSPNVFGKIVNRG 119
Db
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Qу
            120 CRETAFVFAITSAGVTHAVARSCSEGAIESCTCDYRRRGPGGPDWHWGGCSDNVEFGRMF 179
Db.
        181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
QУ
            180 GREFVDSSERGRÜLRYLTNLHNNEAGRMTVASEMQQECKCHGMSGSCTVRTCWMRLPSFR 239
Db
         241 AVGDVLRDRFDGASRVLYGNRGSNRAS-RAELLRLEPEDPAHKPPSPHDLVYFEKSPNFC 299
Qу
             240 LVGDYLKDRFDGASRVVYANKGSNRASHRADPRHLEPENPAHKLPSSRDLVYFEKSPNFC 299.
Db:
         300 TYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRN 359
ÇУ
            300 SYNGKTGTHGTSGRTCNSSSPALDGCELLCCGRGYKTRMEOVTERCHCTFHWCCHVSCLN 359
Db
         360 CTHTRVLHECL 370
QΥ
            || |: :|:||
         360 CTSTOTVHOCL 370
BESUL 5
WNT1 KENLA
    WMT1 KENLA
                 STANDARD:
                               PRT:
TD.
٨C
    P10108:
DT
    01-MAR-1989 (Rel. 10, Created)
DE
    01-MAR-1989 (Rel. 10, Last sequence update)
DT
    15-SEP-2003 (Rel. 42, Last annotation update)
    Wnt-1 protein precursor (XWnt-1) (XInt-1).
DE
GN.
    WNT-1 OR INT-1.
    Xenopus laevis (African clawed frog)
OS
    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC~
    Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC
OC
    Xenopodinae; Xenopus.
    NCBI_TaxID=8355;
ÓΧ
RN
    SEQUENCE FROM N.A.
RP
\mathcal{L}X
    MEDLINE=89098373; PubMed=2911462;
    Moordermeer J., Meijlink F., Verrijer P., Rijsewijk F., Destree O.;
RA
    "Isolation of the Xenopus homolog of int-1/wingless and expression
RT
RT
    during neurula stages of early development.";
    Nucleic Acids Res. 17:11-18(1989).
RL
RN
    [2]
RP
    FUNCTION.
\mathbb{R}X
    MEDLINE=89376559; PubMed=2673541;
RA
    McMahon A.P., Moon R.T.;
RT
    "Ectopic expression of the proto-oncogene int-1 in Xenopus embryos
    leads to duplication of the embryonic axis.";
RT
```

RL

Cell 58:1075-1084(1989).

```
-!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
        TRANSMEMBRANE RECEPTORS. PROBABLE DEVELOPMENTAL PROTEIN. MAY BE A
CC
        SIGNALING MOLECULE IMPORTANT IN CNS DEVELOPMENT. IS LIKELY TO
CC.
        SIGNAL OVER ONLY FEW CELL DIAMETERS.
CC
    -! - SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
      . extracellular matrix.
CC
    -!- TISSUE SPECIFICITY: AT NEURULA IN ANTERIOR NEURAL FOLD; AT TAILBUD
CĊ
        IN DORSAL MIDLINE OF MIDBRAIN.
CC
    -!- DEVELOPMENTAL STAGE: NEURULA ONWARDS.
CC
    -!- SIMILARITY: Belongs to the Wnt family.
CC
    CC
    This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
    between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
    the European Bioinformatics Institute. There are no restrictions on its
CG
    use by non-profit institutions as long as its content is in no way
CC
    modified and this statement is not removed. Usage by and for commercial
CC
    entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
    or send an email to license@isb-sib.ch).
CC
    .______
CC
DR
    EMBL; X13138; CAA31528.1; --
    PIR; S02113; TVXLT1.
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
    PROSITE: PS00246; WNT1: 1.
ĎR
    Whit signaling pathway; Developmental protein; Glycoprotein; Signal A
KW.
                     19 POTENTIAL.
יריהו
                1
    SIGNAL
                              WNT-1 PROTEIN.
                     371
                20
FT
    CHAIN
                              N-LINKED (GLCNAC. . .) (POTENTIAL).
                     - 28
                28
    CARBOHYD
                              N-LINKED (GLCNAC. . .) (POTENTIAL).
             251
                     261
\mathbb{F}^n
    CARBOHYD
                              N-LINKED (GLCNAC. . .) (POTENTIAL)
                     317
    CARBOHYD
               317
Z^{*}\Gamma
                              N-LINKED (GLCNAC. . .) (POTENTIAL).
               360
                     360.
FILE
    CARBOHYD
              37T AA; 41125 MW; 1FACE4F5F0CB4B72 CRC64;
    SEQUENCE
SQ
                       71.9%; Score 1463; DB 1; Length 371;
  Query Match
                       70.0%; Pred. No. 1.3e-120;
  Best Local Similarity
  Matches 261; Conservative 50; Mismatches 50; Indels
                                                         12; Gaps
           T MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLL--TDSKSLQLVLE 58
Qy
             8 LGLKTL---WV-----LAFSSLSNTIAVNNSGKWWGIVNVASAGNVLPGSDARPVPLVLD 59
υþ
          59 PSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVN 118
             60 PSLQLLSR-QKRLIRQNPGILQSITRGLHSAIRECKWHFRNRRWNCPTGTGNQVFGKIIN 118
Obi
         119 RGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGR 178
Qy
             119 RGCRETAFVFAITSAGVTHSVARSCSEGSIESCSCDYRRRGPGGPDWHWGGCSDNIEFGR 178
Db
         179 LFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPT 238
QУ
               179 FIGREFVDSSERGRDLKYLVNLHNNQAGRLTVLTEMRQECKCHGMSGSCSLRTCWMRLPP 238
Db
         239 LRAVGDVLRDRFDGASRVLYGNRGSNR-ASRAELLRLEPEDPAHKPPSPHDLVYFEKSPN 297
Qy.
```

6.

```
239 FRSVGDALKDRFDGASKVTYSNNGSNRWGSRSDPPHLEPENPTHALPSSQDLVYFEKSPN 298
Dh
         298 FCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSC 357
Qу
             299 FCSPSEKNGTPGTTGRICNSTSLGLDGCELLCCGRGYRSLAEKVTERCHCTFNWCCHVTC 358
'nh
         358 RNCTHTRVLHECL 370
QУ
              | | | | : : : : | | | |
         359 LNCTSSQIVHECL 371
Db
RESULT 6
WNT1 BOMMO
                                 PRT;
                                       392 AA.
    WNT1 BOMMO
                  STANDARD;
ID
    P49340;
    01-FEB-1996 (Rel. 33, Created)
DT
     01-FEB-1996 (Rel. 33, Last sequence update)
    15-SEP-2003 (Rel. 42, Last annotation update)
DT
    Wnt-1 protein precursor.
DΕ
    WNT-1.
GN
    Bombyx mori (Silk moth).
OS
     Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC
     Neoptera; Endopterygota; Lepidoptera; Glossata; Ditrysia; Bombycoidea;
QC.
OC.
     Bombycidae; Bombyx.
     NCBI TaxID=7091;
OX
=N
     SEQUENCE FROM N.A.
RP
     Amanai K., Hui C., Kokubo H., Ueno K., Suzuki Y.;
RA
     Submitted (JUN-1994) to the EMBL/GenBank/DDBJ databases.
IJГ
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
CC
       TRANSMEMBRANE RECEPTORS.
     -!- SUBCELLULAR LOCATION: Secreted (Probable)
CC
     -!- SIMILARITY: Belongs to the Wnt family.
CC.
     CC
     This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
     between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
     the European Bioinformatics Institute. There are no restrictions on its
CC
     use by non-profit institutions as long as its content is in no way
CC
     modified and this statement is not removed. Usage by and for commercial
CC
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
     or send an email to license@isb-sib.ch).
CC
CC
     EMBL; D14169; BAA03211.1; -.
DR
     EnterPro; IPR005817; Wnt.
     InterPro; IPR005816; Wnt_grthfactor.
DR
     Pfam; PF00110; wnt; 1.
DR.
     PRINTS; PR01349; WNTPROTEIN.
DR
     SMART; SM00097; WNT1; 1.
DR
     PROSITE; PS00246; WNT1; 1.
DR
     Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
ΚW
                      16
                                POTENTIAL.
PT
                 1
     SIGNAL
                                WNT-1 PROTEIN.
     CHAIN
                 17
                       392
FΤ
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
                 99
                       99
     CARBOHYD
FT
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
                338
                       338
FT
     CARBOHYD
                               N-LINKED (GLCNAC. . .) (POTENTIAL).
     CARBOHYD
                368
                    368
FΤ
               392 AA; 44204 MW; EE25BFE2810F44D6 CRC64;
     SEQUENCE
SO
```

```
Score 1063.5; DB 1; Length 392;
 Query Match
                       52.2%;
                              Pred. No. 1.2e-85;
                       56.3%;
 Best Local Similarity
                                                 Indels
                                                              Gaps
                                                                     8:
 Matches 205; Conservative 39; Mismatches
                                            91;
          34 WWGIVNVASSTNLLTDSKSLQLVLEPSLQ-LLSRKQRRLIRQNPGILHSVSGGLQSAVRE 92
Qy
                         31 WWGIAKAGEPNNLSPVSPGV-LFMDPAVHATLRRKQRRLARENPGVLAAVAKA-QYAFAE 88
Db
          93 CKWQFRNRRWNCPT---APGPHLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIE 149
Qу
                             |: ||: |||||
         89 CQHQFKYRRWNCSTRNFLRGKNLFGKIVDRGCRETAFIYAITSAGVTHSLARACREASIE 148
Db
                                  -WHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMN 199
         150 SCTCDYRRR-----GPGGPD-
Qу
                                   149 SCTCDYSHRPRAAQNPVGGRANVRVWKWGGCSDN1GFGFRFSREFVDTGERGKTLREKMN 208
Db
         200 LHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLY- 258
Qy.
            209 LHNNEAGRRHVQTEMKQECKCHGMSGSCTVKTCWMRLPSFRSVGDSLKDRFDGASRVMLS 268
Db
                   ---GNRGSNRASRAELLR--LEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLG 306
Ωу
                          32.8 KADVETPAORNEAAPHRVPRKDRYRFOLRPHNPDHKSPGVKDLVYLESSPGFCEKNPRLG
Üb
         307 TAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVL 366
              329 IPOTHGRACNDTSIGVDGCDLMCCGRGYKTNTMFVVERCNCTFHWCCEVKCKLCRTEKVV
         367 HECL 370
\mathcal{C}_{\mathcal{A}}
            ï- [:]
         389 HTCL 392
RESULT 7
WNTG DROME
    WNTG DROME
                  STANDARD;
                               PRT:
    P09615; Q27768; Q27769; Q9VM27;
АC
    01-MAR-1989 (Rel. 10, Created)
DT
    01-MAR-1989 (Rel. 10, Last sequence update)
DT
    15-SEP-2003 (Rel. 42, Last annotation update)
DT
    Protein int-1 precursor (dInt-1) (Wingless protein).
DE
    WG OR CG4889.
GN
    Drosophila melanogaster (Fruit fly).
OS
    Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC
    Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC.
    Ephydroidea; Drosophilidae; Drosophila.
OC.
OX
    NCBI_TaxID=7227;
RN
    [1]
RP
    SEQUENCE FROM N.A.
    MEDLINE=87273528; PubMed=3111720;
RX
    Rijsewijk F., Schuermann M., Wagenaar E., Parren P., Weigel D.,
ŀΑ
F.A
    "The Drosophila homolog of the mouse mammary oncogene int-1 is
RT
    identical to the segment polarity gene wingless.";
RT
    Cell 50:649-657(1987).
RL
KM
    [2]
```

```
SEQUENCE FROM N.A.
RP
     MEDLINE=88203634; PubMed=3129722;
RX
     Uzvoelgyi E., Kiss I., Pitt A., Arsenian S., Ingvarsson S.,
RA
     Udvardy A., Hamada M., Klein G., Suemegi J.;
RΆ
     "Drosophila homolog of the murine Int-1 protooncogene.";
RT
     Proc. Natl. Acad. Sci. U.S.A. 85:3034-3038(1988).
RL
RN
     SEQUENCE FROM N.A., AND MUTANTS.
RΡ
     MEDLINE=94085405; PubMed=8262072;
RX
     van den Heuvel M., Harryman-Samos C., Klingensmith J., Perrimon N.,
RA
RA
     Nusse R.;
     "Mutations in the segment polarity genes wingless and porcupine
RT
     impair secretion of the wingless protein.";
RT
     EMBO J. 12:5293-5302(1993).
RL
RN
     [4]
     SEQUENCE FROM N.A.
RP
     STRAIN-Berkeley;
RC
     MEDLINE=20196006; PubMed=10731132;
RX
     Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA
     Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
PA
     George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA
     Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA
     Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA-
     Man K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA
     Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA
     Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA
     Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.
RA
     Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA
     Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA
     Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
\mathbb{R}
     de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
F_{\mathbf{Q}}
     Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA
     Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RΆ
     Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
PA
     Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA
     Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA
     Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA
     Jalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
RA
     Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA
     Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
PA
     Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA
     Merkulov G., Milshina N.V., Mcbarry C., Morris J., Moshrefi A.,
RA
     Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA
     Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA
     Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA
     Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA
     Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
\mathbf{R}\mathbf{A}
     Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA
     Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA
     Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RΆ
     Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
KΑ
     Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA
     Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
RA
     Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
RA
     "The genome sequence of Drosophila melanogaster.";
RT
     Science 287:2185-2195(2000).
RL
RN
```

```
RP
     SECRETION.
    MEDLINE=90058657; PubMed=2582493;
RX
     van den Heuvel M., Nusse R., Johnston P., Lawrence P.A.;
RA
     "Distribution of the wingless gene product in Drosophila embryos: a
RT
     protein involved in cell-cell communication.";
RT
     Cell 59:739-749(1989).
RL
RN
RP
     PHOSPHORYLATION OF ARM.
     MEDLINE=95113174; PubMed=7529201;
RX
     Peifer M., Pai L.M., Casey M.;
RA
     "Phosphorylation of the Drosophila adherens junction protein
RT
     Armadillo: roles for wingless signal and zeste-white 3 kinase.";
RT
     Dev. Biol. 166:543-556(1994).
\mathbf{R}\mathbf{L}
RN
     [7]
     INTERACTION WITH WG AND EN.
ĽР
     TISSUE=Embryo;
RC
     MEDLINE=93113685; PubMed=1335365;
RX
     Siegfried E., Chou T.B., Perrimon N.;
RA
     "wingless signaling acts through zeste-white 3, the Drosophila homolog
ŘТ
     of glycogen synthase kinase-3, to regulate engrailed and establish
RT
RT
     cell fate.";
\mathbf{RL}
     Cell 71:1167-1179(1992).
     -!- FUNCTION: Segment polarity protein. Binds to the frizzled seven-
CC
         transmembrane receptors. This protein is probably a growth factor.
QÜ.
         Acts on neighboring cells to regulate at least one gene, the
CC
         homeobox segmentation gene engrailed. Wg signal represses arm
CC
         phosphorylation. Wg signaling operates by inactivating the sgg
CC
        repression of engrailed autoactivation.
CC
СC
     - SUBCELLULAR LOCATION: Secreted.
     -!- SIMILARITY: Belongs to the Wnt family.
ġС'
     This SWISS-PROT entry is copyright. It is produced through a collaboration
     between the Swiss Institute of Bioinformatics and the EMBL outstation
ŮĊ.
     the European Bioinformatics Institute. There are no restrictions on its
CC.
     use by non-profit institutions as long as its content is in no way
CC
     modified and this statement is not removed. Usage by and for commercial
CC
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
     or send an email to license@isb-sib.ch).
CC
CC
     EMBL; M17230; AAA28647.1; -.
DR
     EMBL; J03650; AAA28646.1; -.
DP.
     EMBL; S67382; AAB29368.1; -.
:::3:3
     EMBL: S67383; AAB29369.1; -.
DR
     EMBL; AE003617; AAF52501.1; -.
DR
     PIR; A29650; A29650.
DR
     FlyBase; FBqn0004009; wg.
DR
     GO; GO:0005576; C:extracellular; NAS.
DR
     GO; GO:0005110; F:frizzled-2 binding activity; IDA.
DR
     GO; GO:0008595; P:determination of anterior/posterior axis, e. . .; NAS.
DR
     GO; GO:0008544; P:epidermal differentiation; IMP.
jЭR
     GO; GO:0007223; P:frizzled-2 receptor signaling pathway; IDA.
DR
     GO; GO:0007483; P:genital disc metamorphosis; NAS.
\mathbb{D}\mathbf{R}
     GO; GO:0007442; P:hindgut morphogenesis; IMP.
DR
     GO; GO:0007560; P:imaginal disc morphogenesis; NAS.
DR
     GO; GO:0007523; P:larval visceral muscle development; IMP.
DR
     GO; GO:0007479; P:leg disc proximal/distal pattern formation; NAS.
DR
     GO; GO:0042127; P:regulation of cell proliferation; NAS.
DR
```

```
GO; GO:0007367; P:segment polarity determination; NAS.
DR
    GO; GO:0008587; P:wing margin morphogenesis; NAS.
DR
    InterPro; IPR005817; Wnt.
DR.
    InterPro; IPR005816; Wnt grthfactor.
DR
DR
    Pfam; PF00110; wnt; 1.
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
    PROSITE; PS00246; WNT1; 1.
DR
    Wnt signaling pathway; Developmental protein; Glycoprotein;
KW
    Segmentation polarity protein; Signal.
KW
ĒΤ
    SIGNAL
                 1
                       17
    CHAIN
                 18
                       468
                               PROTEIN INT-1.
FT
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
               103
                       103
\mathbf{F}\mathbf{\Gamma}
    CARBOHYD
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
    CARBOHYD
                108
                       108
FT
BT
    CARBOHYD
                414
                       414
                                N-LINKED (GLCNAC. . .) (POTENTIAL)
                                C -> S (IN ALLELE WG-IL114).
ЭŤ
    VARIANT
                104
                       104
                                G -> D (IN ALLELE WG-IN67).
IT
    VARIANT
                221
                       221
                                W \rightarrow C (IN REF. 2).
FT
    CONFLICT
                182
                       182
                                E \rightarrow D (IN REF. 2).
经中
    ·CONFLICT
                204
                       204
                                N \rightarrow T (IN REF. 2).
Fall
    CONFLICT
                275
                      275
                                G \rightarrow A (IN REF. 2).
FILE
    CONFLICT
                297
                       297
                                E \rightarrow EE (IN REF. 2).
    CONFLICT
                315
                       315
FΤ
                                K \rightarrow N (IN REF. 2).
řΤ
   CONFLICT
                364
                       364
                391
                       391
                                E \rightarrow D (IN REF. 2).
     CONFLICT
    CONFLICT
                441
                       441
                                E \rightarrow D (IN REF. 2)
PT.
    SEQUENCE
               468 AA; 51986 MW; F766972A731E6171 CRC64;
90
                                Score 1022.5; DB 1; Length 468;
                         50.2%;
  Query Match
                       45.7%; Pred. No. 5.8e-82;
  Best Local Similarity
  Matches 203; Conservative 43; Mismatches
                                               89; Indels 109;
                                                                 Gaps
          31 SGR-----WWGIVNVASSTNLLTDSKSLQLVLEPSL-QLLSRKQRRLIRQNPGILHSVSG 84 -
             和探告 图目 展示性的 医抗性神经病 化固用排泄性
1:2
          30 SGRGRGSMWWGIAKVGEPNNI----TPIMYMDPATHSTLRRKQRRLVRDNPGVLGALVK 84
_ b
          35 GLOSAVRECKWOFRNRRWNCPT---APGPHLFGKIVNRGCRETAFIFAITSAGVTHSVAR 141
Qу
                 85 GANLAISECQHQFRNRRWNCSTRNFSRGKNLFGKIVDRGCRETSFIYAITSAAVTHSIAR 144
Ľο
         142 SCSEGSIESCTCDY--RRRGP------GGPDWHWGGCSDNIDFGRLFGREFVDSGE 189
Qу
             145 ACSEGTIESCTCDYSHQSRSPQANHQAGSVAGVRDWEWGGCSDNIGFGFKFSREFVDTGE 204
Db.
         190 KGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDR 249
QV
             | | :|| | : |
         205 RGRNLREKMNLHNNEAGRAHVQAEMRQECKCHGMSGSCTVKTCWMRLANFRVIGDNLKAR 264
195:
                                  ----RGSNRASRAELL-
         250 FDGASRVLYGN-
Qу
             · | | |
                                               |:
         265 FDGATRVQVTNSLRATNALAPVSPNAAGSNSVGSNGLIIPQSGLVYGEEEERMLNDHMPD 324
Db.
                                                         RLEPEDPAHKPPSP 286
QY.
                                                          : | } : | | | | |
         325 ILLENSHPISKIHHPNMPSPNSLPQAGQRGGRNGRRQGRKHNRYHFQLNPHNPEHKPPGS 384
Db
         287 HDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCN 346
QУ
```

```
385 KDLVYLEPSPSFCEKNLRQGILGTHGRQCNETSLGVDGCGLMCCGRGYRRDEVVVVERCA 444
Db
          347 CTFHWCCHVSCRNCTHTRVLHECL 370
QУ
              445 CTFHWCCEVKCKLCRTKKVIYTCL 468
DE
RESULT 8
WN3A MOUSE
                                  PRT;
                                         352 AA.
                   STANDARD;
     WN3A MOUSE
ID
AC
     P27467;
     01-AUG-1992 (Rel. 23, Created)
DT
     01-AUG-1992 (Rel. 23, Last sequence update)
ЭT
     15-SEP-2003 (Rel. 42, Last annotation update)
DT
     Wnt-3a protein precursor.
DE
     WNT3A OR WNT-3A.
GN
     Mus musculus (Mouse).
OS
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC.
     Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OC.
     NCBI_TaxID=10090;
OX
ŘΝ
     [1]
     SEQUENCE FROM N.A.
RP
     TISSUE=Embryo;
RC
     MEDLINE=91160971; PubMed=2001840;
RX
     Roelink H., Nusse R.;
RΑ
     "Expression of two members of the Wnt family during mouse
RT
     development -- restricted temporal and spatial patterns in the
\mathbf{PT}
     developing neural tube.";
207
     Genes Dev. 5:381-388(1991)
RL
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
         TRANSMEMBRANE RECEPTORS. WNT-3 AND WNT-3A PLAY DISTINCT ROLES IN
CC
         CELL-CELL SIGNALING DURING MORPHOGENESIS OF THE DEVELOPING NEURAL
CC
CC
         TUBE.
     -!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC.
CC
         extracellular matrix.
     -!- TISSUE SPECIFICITY: DORSAL PORTION OF THE NEURAL TUBE (DEVELOPING
CC
         ROOF PLATE), AND MESENCHYME TISSUE SURROUNDING THE UMBILICAL
CC
CC
         VEINS.
     -!- SIMILARITY: Belongs to the Wnt family.
ĆC
     ______
CC
     This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
     between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC -
     the European Bioinformatics Institute. There are no restrictions on its
CC
     use by non-profit institutions as long as its content is in no way
CC
     modified and this statement is not removed. Usage by and for commercial
CC.
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
     or send an email to license@isb-sib.ch).
CC
CC
     EMBL; X56842; CAA40173.1; -.
DR
     PIR; A39532; A39532.
DR
     MGD; MGI:98956; Wnt3a.
DR
     InterPro; IPR005817; Wnt.
DR
     InterPro; IPR005816; Wnt_grthfactor.
     Pfam; PF00110; wnt; 1.
DR
     PRINTS: PR01349; WNTPROTEIN.
DR
     SMART; SM00097; WNT1; 1.
DR
```

PROSITE; PS00246; WNT1; 1.

DR

```
Wnt signaling pathway; Developmental protein; Glycoprotein; Signal;
KW
KW
    Extracellular matrix.
                                POTENTIAL.
F'T
    SIGNAL
                 1
                                WNT-3A PROTEIN.
                      352
FT
    CHAIN
                 25
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
                 87
                       87
FT
    CARBOHYD
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
FT.
    CARBOHYD
                298
                      298
                       39257 MW; 7ADFC5B38A8EFF63 CRC64;
SO
    SEQUENCE.
               352 AA;
                        41.4%; Score 843.5; DB 1; Length 352;
 Query Match
                        45.4%;
                                Pred. No. 1.9e-66;
 Best Local Similarity
 Matches 161; Conservative
                              53; Mismatches 130; Indels
                                                            11: Gaps
                                                                        4:
          16 LLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQN 75
Çv
                                               | \cdot | \cdot | \cdot | \cdot | \cdot |
                        || :
                                       ::|
           7 LLVLCSLKQAL--GSYPIWWSLAVGPQYSSL----STQPILCASIPGLVPKQLRFCRNY 59
Db
          76 PGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAG 134
               ]: ||: |::: ::||: ||| |||||
                                                :|| :::: ||:||: || ||;
          60 VEIMPSVAEGVKAGIQECQHQFRGRRWNCTTVSNSLAIFGPVLDKATRESAFVHAIASAG 119
Db
         135 VTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDL 194
QУ
                           :| |||:||
         120 VAFAVTRSCAEGSAAICGCSSRLQGSPGEGWKWGGCSEDIEFGGMVSREFADARENRPDA 179
Db
         195 RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGAS 254
ÔУ
                130 RSAMNRHNNEAGRQAIASHMHLKCKCHGLSGSCEVKTCWWSQFDFRTIGDFLKDKYDSAS 239
Db -
         255 RVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRA 314
ÇV
                     . ::
         240 EMVV -- EKHRESRGWVETLRPRYTYFKVPTERDLVYYEASPNFCEPNPETGSFGTRDRT 296
Db
         315 CNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QΥ
             297 CNVSSHGIDGCDLLCCGRGHNARTERRREKCHCVFHWCCYVSCQECTRVYDVHTC 351
Db
RESULT 9
WNT3 MOUSE
                                 PRT;
                                        355 AA.
    WNT3 MOUSE
                   STANDARD:
TD
AC
     P17553;
     01-AUG-1990 (Rel. 15, Created)
TG
     01-AUG-1990 (Rel. 15, Last sequence update)
ĎΤ
     15-SEP-2003 (Rel. 42, Last annotation update)
DT
     Wnt-3 proto-oncogene protein precursor.
DE
     WNT3 OR WNT-3 OR INT-4.
GN
     Mus musculus (Mouse).
OS
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
     Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OC
     NCBI TaxID=10090;
OX
RN
     [1]
RΡ
     SEQUENCE FROM N.A.
     STRAIN=BALB/c; TISSUE=Embryo;
BC
     MEDLINE=90280407; PubMed=2162045;
RX
     Roelink H., Wagenaar E., Lopes da Silva S., Nusse R.;
RA
     "Wnt-3, a gene activated by proviral insertion in mouse mammary
RT
     tumors, is homologous to int-1/Wnt-1 and is normally expressed in
RT
```

Å,

```
mouse embryos and adult brain.";
RT
    Proc. Natl. Acad. Sci. U.S.A. 87:4519-4523(1990).
RL
    -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
        TRANSMEMBRANE RECEPTORS. WNT-3 AND WNT-3A PLAY DISTINCT ROLES IN
CC
        CELL-CELL SIGNALING DURING MORPHOGENESIS OF THE DEVELOPING NEURAL
CC
CC
        TUBÉ.
    -!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
CC
        extracellular matrix.
    -!- TISSUE SPECIFICITY: DORSAL PORTION OF THE NEURAL TUBE, DORSAL
CC
        ECTODERM, THE BRANCHIAL ARCHES, AND THE LIMB BUDS.
CC
    -!- DISEASE: SOME MOUSE MAMMARY TUMORS INDUCED BY MOUSE MAMMARY TUMOR
CC
        VIRUS (MMTV) CONTAIN A PROVIRUS INTEGRATED INTO A HOST CELL REGION
CC
        WHICH HAS BEEN NAMED WNT-3.
CC
    - SIMILARITY: Belongs to the Wnt family:
CC
CC
    This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
    between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
    the European Bioinformatics Institute. There are no restrictions on its
CC
    use by non-profit institutions as long as its content is in no way
CC
    modified and this statement is not removed. Usage by and for commercial
CC
    entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
    or send an email to license@isb-sib.ch).
CC
    CC
    EMBL; M32502; AAB38109.1; -.
DR.
    PIR; A35503; A35503.
Dit
    MGD; MGI:98955; Wnt3.
\Sigma R
    InterPro; IPR005817; Wnt.
17.
    InterPro; IPR005816; Wnt_grthfactor.
DR
    Pfam; PF00110; wnt; 1.
n.R
DR
    PRINTS; PR01349; WNTPROTEIN.
    SMART; SM00097; WNT1; 1.
OD
    PROSITE, PS00246; WNT1; 1.
THE
    Wnt signaling pathway; Developmental protein; Slycoprotein; Signal;
KV.
    Protó-oncogene; Extracellular matrix.
N/
                               POTENTIAL.
P.T.
    SIGNAL
                1
                      21
\dot{\mathbf{F}}\mathbf{T}
                 22
                      355
                               WNT-3 PROTO-ONCOGENE PROTEIN.
    CHAIN
                               N-LINKED (GLCNAC. . .) (POTENTIAL).
FT
    CARBOHYD
                       90
                              N-LINKED (GLCNAC. . .) (POTENTIAL).
TP.
    CARBOHYD
               301
                      301
    SEQUENCE 355 AA; 39659 MW; F31CFD65E43E9C17 CRC64;
SQ
                        41.4%; Score 843.5; DB 1; Length 355;
Query Match
  Best Local Similarity 46.0%; Pred. No. 22-66;
  Matches 155; Conservative 53; Mismatches 120; Indels
                                                            9; Gaps
          34 WWGIVNVASSINLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVREC 93
             26 WWSLALGOOYTSLAS-----OPLLCGSIPGLVPKQLRFCRNYIEIMPSVAEGVKLGIQEC 80
          94 KWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSÍESCT 152
Qу<sup>л</sup>
             81 OHOFRGRRWNCTTIDDSLAIFGPVLDKATRESAFVHAIASAGVAFAVTRSCAEGTSTICG 140
Do
         153 CDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
QV
                 141 CDSHHKGPPGEGWKWGGCSEDADFGVLVSREFADARENRPDAPSAMNKHNNEAGRTTILD 200
Db
         213 EMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
ÔΥ
```

```
201 HMHLKCKCHGLSGSCEVKTCWWAQPDFRAIGDFLKDKYDSASEMVV---EKHRESRGWVE 257
Db
         273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
Qу
                    258 TLRAKYALFKPPTERDLVYYENSPNFCEPNPETGSFGTRDRTCNVTSHGIDGCDLLCCGR 317
Db.
         333 GHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
             318 GHNTRTEKRKEKCHCVFHWCCYVSCQECIRIYDVHTC 354
Db
RESULT 10
WNT4 XENLA
                                 PRT:
                                       351 AA.
                  STANDARD;
    WNT4 KENLA
ID
    P49338; Q91927;
    01-FEB-1996 (Rel. 33, Created)
    01-FEB-1996 (Rel. 33, Last sequence update)
DT
    15-SEP-2003 (Rel. 42, Last annotation update)
DT
    Wnt-4 protein precursor (XWnt-4).
DE
GN
    WNT-4.
    Xenopus laevis (African clawed frog).
OS
    Eukaryota; Metazoa; Chordata; Craniata; Verkebrata; Euteleostomi;
CC
    Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
O.C
    Xenopodinae; Xenopus.
OC
    NCBI TaxID=8355;
OX
ŖΝ
    SECUENCE FROM N.A.
\Re P
    MEDLINE=93048810; PubMed=1425335;
KX
    McGrew L.L., Otte A.P., Moon R.T.;
L\Lambda
     "Analysis of Xwnt-4 in embryos of Xenopus laevis: a Wnt family member
MT
     expressed in the brain and floor plate.";
RT
    Development 115:463-473(1992).
KL
RN
     SEQUENCE OF 261-351 FROM N.A.
RP
RC
     TISSUE=Embryo;
    MEDLINE=91122437; PubMed=1991549;
ВX
     Christian J.L., Gavin B.J., McMahon A.P., Moon R.T.;
RA
     "Isolation of cDNAs partially encoding four Xenopus
RT
     Wnt-1/int-1-related proteins and characterization of their transient
RT
     expression during embryonic development.";
RT
     Dev. Biol. 143:230-234(1991).
RL
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
        TRANSMEMBRANE RECEPTORS. PROBABLE DEVELOPMENTAL PROTEIN. MAY BE A
CC.
        SIGNALING MOLECULE WHICH AFFECTS THE DEVELOPMENT OF DISCRETE
C'C'
        REGIONS OF TISSUES. IS LIKELY TO SIGNAL OVER ONLY FEW CELL
CC
        DIAMETERS.
CC.
     -!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
        extracellular matrix.
CC
     -!- TISSUE SPECIFICITY: EXPRESSED IN THE BRAIN AND FLOOR PLATE.
CC
     - :- DEVELOPMENTAL STAGE: EXPRESSION DURING THE NEURULA THROUGH TADPOLE
CC
        STAGES OF DEVELOPMENT.
CC
     -!- SIMILARITY: Belongs to the Wnt family.
CC
     CC
     This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
     between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
     the European Bioinformatics Institute. There are no restrictions on its
CC
```

```
use by non-profit institutions as Yong as its content is in no way
    modified and this statement is not removed. Usage by and for commercial
CC
    entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
    or send an email to license@isb-sib.ch).
CC
ĊC
DR
    EMBL; U13183; AAA20879.1; -.
    EMBL; M55055; AAA69970.1; -.
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt_grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
    PROSITE; PS00246; WNT1; 1.
DR
    Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
KW.
                             POTENTIAL.
               1
                    22
FT
    SIGNAL
                    351
                             WNT-4 PROTEIN.
    CHAIN
               23
PT
                             N-LINKED (GLCNAC. . .) (POTENTIAL).
               88
                    88
FΤ
    CARBOHYD
                             N-LINKED (GLCNAC. . .) (POTENTIAL).
                    297
    CARBOHYD
              297
\mathbf{z}T
                             Q -> H (IN REF. 2).
              295
                    295
FT
    CONFLICT
    CÓNFLICT
              335
                    335
                             F -> SR (IN REF. 2).
FT
                             KCKQ -> DLQA (IN REF. 2).
              337
                    340
    CONFLICT
FT
                             HK -> NL (IN REF. 2).
              342
                    343
FT
    CONFLICT
                             VEMHTCR -> FYSVT (IN REF. 2).
TT.
    CONFLICT
              345
                    351
    SEQUENCE 351 AA; 39167 MW; 0F87DF08F904938A CRC64;
\mathbb{C}
                      41.4%; Score 843; DB 1; Length 351;
 Query Match
 West Local Similarity 42.8%; Pred, No. 2.1e-66;
 Matches 187; Conservative 65; Mismatches 125; Indels
                                                       20;
          TEGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQELS 65
Qу
            1 MTPEYFLRSLLMMILAVFSANASN------WLYLAKLSSVGSISEEETCEKLKGP-----I 50
         56 RKORRLIRONPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVMRGCRETA 125
            51 QRQVQMCKRNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDTLPVFGKVVTQGTREAA 110
Db
         126 FIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFV 185
Qу
            111 FVYAISSAGVAFAVTRACSSGDLEKCGCDRTVHGVSPQGFQWSGCSDNILYGVAFSQSFV 170
٦ĥ
         186 DSGEK---GRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAV 342
Qv
            171 DVRERSKGGSSSRALMNLHNNEAGRKAILNNMRVECKCHGVSGSCEVKTCWKAMPTFRKV 230
Db
         243 GDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYS 302
            231 GNVLKEKFDGATEVEQKKIGSTKV------LVPKNSQFKPHTDEDLVYLDSSPDFCDHD 2,83
Dri
         303 GRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTH 362
Çу
             284 LKNGVLGTTGRQCNKTSKAIDGCELMCCGRGFHTEEVEIVERCSCKFHWCCFVKCKQCHK 343
Db
         363 TRVLHEC 369
Qу
               : | |
Db
         344 VVEMHTC 350
```

```
WNT3 HUMAN
     WNT3 HUMAN
                   STANDARD;
                                  PRT;
                                         355 AA.
AC
     P56703; Q9H1J9;
     15-JUL-1999 (Rel. 38, Created)
DT
DT_{\uparrow}
     16-OCT-2001 (Rel. 40, Last sequence update)
     15-SEP-2003 (Rel. 42, Last annotation update)
DΤ
     Wnt-3 proto-oncogene protein precursor.
     WNT3 OR INT4.
GN
     Homo sapiens (Human).
OS
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
     Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
CC
ΟX
     NCBI TaxID 9606;
RN
     [1]
RP
     SEQUENCE FROM N.A.
     Testa T.T., Mossakowska D.E., Carter P.S., Hu E., Zhu Y.,
RA
     Kelsell D.P., Murdock P.R., Herrity N.C., Lewis C.J., Cross D.A.,
RA
     Culbert A.A., Reith A.D., Barnes M.R.;
QΆ
     "Molecular cloning and characterization of six novel human WNT
RT
RT
     genes. ";
     Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
PN
     SEQUENCE FROM N.A.
RD.
     MEDLINE=21490205; PubMed=11604997;
\mathbf{X}
ŔΆ.
     Katoh M.;
    "Molecular cloning and characterization of human WNT3.";
RT
PL
     int. U. Oncol. 19:977-982(2001).
PN.
18 B
    SEQUENCE OF 1-333 FROM N.A.
                                                                  K (
     MEDLINE=94063935; PubMed=8244403;
                                                                  S 5.
     Roelink H., Wang J., Black D.M., Solomon E., Nusse R.;
                                                                 RI
     "Molecular cloning and chromosomal localization to 17q21 of the human
%f 'WNT3 gene.";
     Genomics 17:790-792(1993).
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
         TRANSMEMBRANE RECEPTORS. WNT-3 AND WNT-3A PLAY DISTINCT ROLES IN-
C.C.
         CELL_CELL SIGNALING DURING MORPHOGENESIS OF THE DEVELOPING NEURAL
CC.
CC
         TUBE (BY SIMILARITY).
    - 1- SUBCELLULAR LOCATION: Possibly secreted and associates with the
\mathbb{C}\mathbb{C}
CC
         extracellular matrix.
СC
    -!- SIMIDARITY: Belongs to the Wnt family.
     CC
    This SWISG-PROT entry is copyright. It is produced through a collaboration.
CC.
     between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
    the European Bioinformatics Institute. There are no restrictions on its
CC
     use by non-profit institutions as long as its content is in no way
CC
     modified and this statement is not removed. Usage by and for commercial
CC
CC
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
     or send an email to license@isb-sib.ch).
CC
CC
     _____
     EMBL; AY009397; AAG38657.1; -.
DR
ΏR
     EMBL; AB067628; BAB70502.1; -.
     PIR; A47536; A47536.
DR
DR
     Genew; HGNC:12782; WNT3.
DR
     MIM: 165330; -.
DR
     GO; GO:0005201; F:extracellular matrix structural constituent; NAS.
```

RESULT 11

```
GO; GO:0007267; P:cell-cell signaling; NAS.
ĎR
    GO; GO:0009653; P:morphogenesis; NAS.
DR
DR
    InterPro; IPR005817; Wnt.
    InterPro; IPR005816; Wnt grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
DR
    SMART; SM00097; WNT1; 1.
    PROSITE; PS00246; WNT1; 1.
DR
    Wnt signaling pathway; Developmental protein; Glycoprotein; Signal;
KW
    Proto-oncogene; Extracellular matrix.
KW
                              POTENTIAL.
FT
    SIGNAL
                1
                      21
                              WNT-3 PROTO-ONCOGENE PROTEIN.
                22
                     355
FT
    CHAIN
FT
                              N-LINKED (GLCNAC. . .) (POTENTIAL).
                90
                      90
    CARBOHYD
                              N-LINKED (GLCNAC. . .) (POTENTIAL) .
               301
                     301
FT
    CARBOHYD
              355 AA; 39645 MW; 85D15F2C7884A64F CRC64;
SO
    SEQUENCE
                       41.3%; Score 840.5; DB 1;
                                                 Length 355;
 Query Match
                       46.0%; Pred. No. 3.6e-66;
 Best Local Similarity
                                                 Indels
                                                              'Gaps
                                                                     3:
 Matches 155; Conservative
                           52; Mismatches 121;
          34 WWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVREC 93
Qу
                            | | :
                     26 WWSLALGQQYTSL----GSQPLLCGSIPGLVPKQLRFCRNYIEIMPSVAEGVKLGIQEC 80
Db
          94 KWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCT 152
                             31 OHOFRGRRWNCTTIDDSLAIFGPVLDKATRESAFVHAIASAGVAFAVTRSCAEGTSTICG 140
         153 CDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
Çγ
         141 CDSHHKGPPGEGWKWGGCSEDADFGVLVSREFADARENRPDARSAMNKHNNEAGRTTILD 200
Ch
         213 EMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
҈Ѹ
                                  -:||||:||||
         201 HMHLKCKCHGLSGSCEVKTCWWAQPDFRAIGDFLKDKYDSASEMVV---EKHRESRGWVE 257
ΩC
         273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
Qу
                    258 TLRAKYSLFKPPTERDLVYYENSPNFCEPNPETGSFGTRDRTCNVTSHGIDGCDLLCCGR 317
Db
         333 GHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
             318 GHNTRTEKRKEKCHCIFHWCCYVSCQECIRIYDVHTC 354
Db
RESULT 12
WNT4 HUMAN
                               PRT;
    WNT4 HUMAN
                  STANDARD;
ID
    P56705; Q96T81; Q9BXF5; Q9H1J8; Q9UJM2;
AC
    15-JUL-1999 (Rel. 38, Created)
DT
    28-FEB-2003 (Rel. 41, Last sequence update)
DT
    15-SEP-2003 (Rel. 42, Last annotation update)
DT
    Wnt-4 protein precursor.
DE
    WNT4.
GN
    Homo sapiens (Human).
OS
    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
    Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OC
```

```
NCBI TaxID=9606;
OX
RN
     [1]
RP
     SEQUENCE FROM N.A.
     Testa T.T., Mossakowska D.E., Carter P.S., Hu E., Zhu Y.,
RA
     Kelsell D.P., Murdock P.R., Herrity N.C., Lewis C.J., Cross D.A.,
RA
     Culbert A.A., Reith A.D., Barnes M.R.;
RA
RT
     "Molecular cloning and characterization of six novel human WNT
RT
     genes.";
RL
     Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
RN
RP
     SEQUENCE FROM N.A.
RX
     MEDLINE=21205589; PubMed=11283799;
     Jordan B.K., Mohammed M., Ching S.T., Delot E., Chen X.N., Dewing P.,
RA
     Swain A., Rao P.N., Elejalde B.R., Vilain E.;
RA
     "Up-regulation of wnt-4 signaling and dosage-sensitive sex reversal in
RT
RT
     humans.";
     Am. J. Hum. Genet. 68:1102-1109(2001).
RL
RN
     [3]
RP
     SEQUENCE OF 27-351 FROM N.A.
RA
     Pearce A.;
     Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
RL
RN
RР
     SEQUENCE OF 210-329 FROM N.A.
RC
     TISSUE=Breast;
RX
     MEDLINE=94221588; PubMed=8168088;
     Huquet E.L., McMahon J.A., McMahon A.P., Bicknell R., Harris A.L.;
RA
RT
     "Differential expression of human Wht genes 2, 3, 4, and 7B in human
ŔŢ
     breast cell lines and normal and disease states of human breast
RT
     tissue.";
     Cancer Res. 54:2615-2621(1994).
RL
PH
的
     SEQUENCE OF 1-26 FROM N.A.
     Peltoketo H., Heikkila M., Vainio S.,
PA
     Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
RL
N
     SEQUENCE OF 1-26 FROM N.A.
RP
     Sim U.E., Smith A., Szilagi E., Ioannou P., Lindsay M.H., Little M.H.;
RA
     "Expression of Wnt-4 can be regulated by the Wilms' tumor suppressor
RT
RT
     gene, WT1.";
     Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
PL
CC
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
         TRANSMEMBRANE RECEPTORS. PROBABLE DEVELOPMENTAL PROTEIN. MAY BE A
         SIGNALING MOLECULE WHICH AFFECTS THE DEVELOPMENT OF DISCRETE
CC
.CC
         REGIONS OF TISSUES. IS LIKELY TO SIGNAL OVER ONLY FEW CELL
         DIAMETERS (BY SIMILARITY). OVEREXPRESSION MAY BE ASSOCIATED WITH
.CC
         ABNORMAL PROLIFERATION IN HUMAN BREAST TISSUE.
da
     -1- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC.
CC
         extracellular matrix.
     -!- SIMILARITY: Belongs to the Wnt family.
CC
     _____
CC
     This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
CC
     between the Swiss Institute of Bioinformatics and the EMBL outstation -
     the European Bioinformatics Institute. There are no restrictions on its
CC
     use by non-profit institutions as long as its content is in no way
CC
CC
     modified and this statement is not removed. Usage by and for commercial
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
```

or send an email to license@isb-sib.ch).

```
CC
DR
    EMBL; AY009398; AAG38658.1; -.
DR
    EMBL; AF316543; AAK51699.1; -.
DR
    EMBL; AL031281; CAB52601.1; -.
    EMBL; AF335591; AAK25765.1; -.
DR
DR
    EMBL; AY033057; AAK50427.1; -.
DR
    Genew; HGNC:12783; WNT4.
DR
    MIM; 603490; -.
DR
    GO; GO:0005576; C:extracellular; NAS.
DR
    GO; GO:0005201; F:extracellular matrix structural constituent; NAS.
    GO; GO:0007267; P:cell-cell_signaling; NAS.
DR
    GO; GO:0007275; P:development; NAS.
DR
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt grthfactor.
DR
    Pfam; PF00110; wnt; 1.
    PRINTS; PR01349; WNTPROTEIN.
DR
DR
    SMART; SM00097; WNT1; 1.
DR
    PROSITE; PS00246; WNT1; 1.
KW.
    Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
FI
    SIGNAL
                1
                      22
                              POTENTIAL.
                              WNT-4 PROTEIN.
FT
    CHAIN
                23
                     351
               88
                      88
                              N-LINKED (GLCNAC. . .) (POTENTIAL) .
بالتك
    CARBOHYD
FΤ
               297
                     297
                              N-LINKED (GLCNAC. . .) (POTENTIAL) .
    CARBOHYD
ŸΤ
    CONFLICT
               106
                     106
                              T \rightarrow I (IN REF. 1).
FT
    CONFLICT
               111
                     111
                              F \rightarrow L (IN REF. 1).
             351 AA; 39051 MW; 465D08755C992DA8 CRC64;
SEQUENCE
                       41.3%; Score 840; DB 1;
 Query Match
                                              Length 351:
                       44.8%; Pred. No. 3.9e-66;
 Best Decal Similarity
 Matches 161; Conservative 55; Mismatches 123;
         44 TLLLATAALPAALAANSSGRWNGIVNVÄSSTNELTDSKSLOLVLEPSLOLLSRKORRLIE 73
Qy
            9 SLRLLVFAVFSAAASN------WLYDAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Dia
         74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133 /
27
            :|||:| :| || ||::||:||
         59 RNLEVMDSVRRGAQLAIEECQYOFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
         C_{\Sigma}
            1)/2
        119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
         193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
QŸ
                Db
        1.700ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238.
        251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
QУ
                                ||:||
                                -LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
        239 DGATEVEPRRVGSSRA-
Ďb
        311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QΥ
             292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db_
```

```
WNT4 MOUSE
                                  PRT;
ID
    WNT4 MOUSE
                   STANDARD;
                                        351 AA.
AC
    P22724;
     01-AUG-1991 (Rel. 19, Created)
DT
     01-AUG-1991 (Rel. 19, Last sequence update)
ÐТ
     15-SEP-2003 (Rel. 42, Last annotation update)
DT
DE
    Wnt-4 protein precursor.
GN
    WNT4 OR WNT-4.
OS
    Mus musculus (Mouse).
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC
     Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OC
OX
    NCBI TaxID=10090;
RM
     [1]
     SEQUENCE FROM N.A.
ЗÞ
     MEDLINE=91122634; PubMed=2279700;
RX
     Gavin B.J., McMahon J.A., McMahon A.P.;
AS
     "Expression of multiple novel Wnt-1/int-1-related genes during fetal
RT
     and adult mouse development.";
RТ
    Genes Dev. 4:2319-2332(1990).
RL
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
ĊC
        TRANSMEMBRANE RECEPTORS. MAY BE AN INTRACELLULAR SIGNALING
CC
        MOLECULE INVOLVED IN SEGMENTATION OF THE FOREBRAIN. IS LIKELY TO
CC
         SIGNAL OVER ONLY FEW CELL DIAMETERS (BY SIMILARITY). SEEMS TO BE
CC
         INVOLVED IN KIDNEY DEVELOPMENT.
CC
     -!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
CC
        extracellular matrix.
     -!- TISSUE SPECIFICITY: IN ADULTS IN LUNG AND BRAIN.
CC
     -!- SIMILARITY: Belongs to the Wnt family.
CC
     CC
     This SWISS-PROT entry is copyright. It is produced through a collaboration
CC.
     between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
     the European Bioinformatics Institute. There are no restrictions on its
CC
     use by non-profit institutions as long as its content is in no way
CC
     modified and this statement is not removed. Usage by and for commercial
CC
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
     or send an email to license@isb-sib.ch).
CC
     -----
CC
     EMBL; M89797; AAA40566.1; -.
ĎR
DR
     PIR; C36470; C36470.
     MGD; MGI:98957; Wnt4.
DR
     GO; GO:0042445; P:hormone metabolism; IMP.
DR
     GO; GO:0007292; P:oogenesis; IMP.
\GammaR
     GO; GO:0009887; P:organogenesis; IMP.
DR
     GO; GO:0007548; P:sex differentiation; IMP.
DR
DR
     InterPro; IPR005817; Wnt.
OR
     InterPro; IPR005816; Wnt grthfactor.
DR
     Pfam; PF00110; wnt; 1.
     PRINTS; PR01349; WNTPROTEIN.
DR
     SMART; SM00097; WNT1; 1.
DR
     PROSITE; PS00246; WNT1; 1.
     Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
KW
                       2.2
                                 POTENTIAL.
FT
     SIGNAL
                  1
                                 WNT-4 PROTEIN.
FT
                 23
                       351
     CHAIN
                                 N-LINKED (GLCNAC. . .) (POTENTIAL).
                 88
                       88
FT
     CARBOHYD
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
                297
                       297
FT
     CARBOHYD
               351 AA; 39049 MW; 7E1C5C739BE939D9 CRC64;
     SEQUENCE
SQ
```

```
41.1%; Score 836; DB 1; Length 351;
 Query Match
 Best Local Similarity 44.6%; Pred. No. 8.7e-66;
 Matches 160; Conservative 55; Mismatches 124; Indels
         14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qν
            9 SLRLLVFAVFSAAASN ----WLYLAKLSSVGSISEEETCE----KLKGLIQRQVQMCK 58
Do
         74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qу
            59 RNLEVMDSVRRGAGLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
         134 GVTHSVARSCSEGSIESCTCDYPRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
QУ
            119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
         193 --DLRFLMNLHNNEAGRITVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
QУ
                179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Çy -
                                --LVPRNAQFKPHTDEDLVYLEPSPDFCEQDIRSGVLGT 291
         239 DGATEVEPRRVGSSRA-
         311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
             292 RGRTCNKTSKALDGCHLLCCGRGFHTAQVELAERCGCRFHWCCFVKCRQCQRLVEMHTC
RESULT 14
WNT'4 RAT
                               PRT;
                 STANDARD:
                                     351 AA.
ID .
    WNT4 RAT
ΑĆ
    090X05;
    16-OCT-2001 (Rel. 40, Created)
DT
    16-OCT-2001 (Rel. 40, Last sequence update)
ĎΤ
    15-SEP-2003 (Rel. 42, Last annotation update)
DT
DE
    Wnt-4 protein precursor.
GN
    WNT4 OR WNT-4.
    Rattus norvegicus (Rat)
OS
    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
ÓC.
    Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OC
ÓΧ
    NCBI TaxID=10116;
RN
    [1]
RP
    SEQUENCE FROM N.A.
ŔĊ
    STRAIN=Sprague-Dawley; TISSUE=Corpus luteum;
    Lacher M.D., Walther P.R., Lareu R., Dharmarajan A.M., Friis R.R.;
RA
àЪ
    Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
    -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
CC
        TRANSMEMBRANE RECEPTORS. MAY BE AN INTRACELLULAR SIGNALING
        MOLECULE INVOLVED IN SEGMENTATION OF THE FOREBRAIN. IS LIKELY TO.
CC
        SIGNAL OVER ONLY FEW CELL DIAMETERS (BY SIMILARITY).
CC
    -!- SUBCELLULAR LOCATION: Possibly secreted and associates with the
CC
        extracellular matrix.
CC
    -!- SIMILARITY: Belongs to the Wnt family.
CC
CC
    This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
    between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
```

```
the European Bioinformatics Institute. There are no restrictions on its
CC
    use by non-profit institutions as long as its content is in no way
CC
    modified and this statement is not removed. Usage by and for commercial
CC
    entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC
    or send an email to license@isb-sib.ch).
CC
    ______
CC
    EMBL; AF188608; AAF15589.1; -.
DR
    InterPro; IPR005817; Wnt.
DR
    InterPro; IPR005816; Wnt_grthfactor.
DR
    Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
DR
    SMART; SM00097; WNT1; 1.
DR
    PROSITE: PS00246; WNT1; 1.
DR
    Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
KW
                1
                    . 22
                              POTENTIAL.
P^{\prime}\Gamma
    SIGNAL
                23
                     351
                              WNT-4 PROTEIN.
FT
    CHAIN
                              N-LINKED (GLCNAC. . .) (POTENTIAL).
               88
                     88
\mathbf{FT}
    CARBOHYD
                              N-LINKED (GLCNAC. . .) (POTENTIAL) .
               297.
                     297.
FT
    CARBOHYD
              351 AA; 39043 MW; 5F8D80C3B4502BA1 CRC64;
    SEQUENCE
SQ \sim
                       41.1%; Score 836; DB 1; Length 351;
 Query Match
 Best Local Similarity 44.6%; Pred. No. 8.7e-66;
 Matches 160; Conservative 55; Mismatches 124; Indels
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
          SLRILVFAVESAAASN ----WLYLAKUSSVGSISEEETCE----KLKGLIQRQVQMCK 58
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAFGPHLFGKIVNRGCRETAFIFAITSA 133
          100
          59 RNLEVMDSVRHGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
100
         134 GVTHSVARSCSEGSIESCTCDYRRRGFGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
         ,。[[ 图 ] :[[ 4 ] ] :[ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [ 4 ] [
         119 GVAFAVTRACSSGDLEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
T.b
         193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Q7
                1
         179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
1737
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Qy/s
             239 DCATEVEPRRVGSSRA-----LVPRNAQFKPHTDEDLVYLEPSPDFCEODMRSGVLGT 291
Dia
         311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Oy.
             292 RGRTCNKTSKAIDGCELLCCGRGFHTAHVELAERCGCRFHWCCFVKCRQCQRLVEMHTC 350
RESULT 15
WNT4 CHICK
     WNT4 CHICK
                  STANDARD;
                                PRT:
                                      351 AA.
TD
     P49337;
AC
     01-FEB-1996 (Rel. 33, Created)
DT
     01-FEB-1996 (Rel. 33, Last sequence update)
     15-SEF=2003 (Rel. 42, Last annotation update)
DT
DE
     Wnt-4 protein precursor.
```

```
WNT4 OR WNT-4.
GN
OS
    Gallus gallus (Chicken).
     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
     Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC
OC
     Gallus.
    NCBI TaxID=9031;
ΟX
RN
     [1]
RP
     SEQUENCE FROM N.A.
RC
    TISSUE=Embryo;
ВX
    MEDLINE=95032034; PubMed=7945308;
RΑ
     Yoshioka H., Ohuchi H., Nohno T., Fujiwara A., Tanda N.,
     Kawakami Y., Noji S.;
RT
     "Regional expression of the Cwnt-4 gene in developing chick central
     nervous system in relationship to the diencephalic neuromere D2 and a
RT
     dorsal domain of the spinal cord.";
RT
     Biochem. Biophys. Res. Commun. 203:1581-1588(1994).
RL
RN
     [2]
     SEQUENCE FROM N.A.
RP
RX
    MEDLINE=96063018; PubMed=7579581;
     Tanda N., Kawakami Y., Saito T., Noji S., Nohno T.;
RA
     "Cloning and characterization of Wnt-4 and Wnt-11 cDNAs from chick
34
RT
     embryo.";
RL
     DNA Seq. 5:277-281(1995).
     -!- FUNCTION: LIGAND FOR MEMBERS OF THE FRIZZLED FAMILY OF SEVEN
CC
        TRANSMEMBRANE RECEPTORS. MAY BE AN INTRACELLULAR SIGNALING
        MOLECULE INVOLVED IN SEGMENTATION OF THE FOREBRAIN INTO THE
20
CO
     MEUROMERE D2 AND IN DIFFERENTIATION OF THE DORSAL REGION OF THE
11971
124 Car
        SPINAL CORD. IS LIKELY TO SIGNAL OVER ONLY FEW CELL DIAMETERS.
20°
     - !- SUBCELLULAR LOCATION: Possibly secreted and associates with the
QQ.
      extracellular matrix.
     -!- TISSUE SPECIFICITY: PREDOMINANTLY EXPRESSED IN THE DIENCEPHALON
CC
CO.
       NEUROMERE D2.
     -!- SIMILARITY: Belongs to the Wnt family.
CC
     ČC.
     This SWISS-PROT entry is copyright. It is produced through a collaboration
CC
    between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC
     the European Bioinformatics Institute. There are no restrictions on its
CC
     use by non-profit institutions as long as its content is in no way
CC
    modified and this statement is not removed. Usage by and for commercial
CC
     entities requires a license agreement (See http://www.isb-sib.ch/announce/
ČC.
     or send an email to license@isb-sib.ch).
CC
CC
DR
     EMBL; D31900; BAA06698.1; -.-
     InterPro; IPR005817; Wnt.
DR
DR
     InterPro; IPR005816; Wnt grthfactor.
DR
     Pfam; PF00110; wnt; 1.
DR
    PRINTS; PR01349; WNTPROTEIN.
     SMART; SM00097; WNT1; 1.
DR
DR
    PROSITE; PS00246; WNT1; 1.
    Wnt signaling pathway; Developmental protein; Glycoprotein; Signal.
KW
                                POTENTIAL.
FΤ
    SIGNAL
                 1
                       22
                                 WNT-4 PROTEIN.
FT
    CHAIN
                 23
                       351
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
FT
    CARBOHYD
                 2.1
                       2.1
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
                 88
FТ
    CARBOHYD
                       88
                                N-LINKED (GLCNAC. . .) (POTENTIAL).
    CARBOHYD 297
                       297
FT
    SEQUENCE 351 AA; 38963 MW; D22DC689284A961C CRC64;
```

Query Match	40.9%; Score 832; DB 1; Length 351; Similarity 42.7%; Pred. No. 2e-65;	
	6; Conservative 65; Mismatches 124; Indels 20; Gaps	4;
Qy 8	PGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRK	67
Db 3	PEYFLRSLLLIILATFSANASNWLYLAKLSSVGSISEETCEKLKGLIQR	,52
Qy 68	QRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFI	127
Db 53	QVQMCKRNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDTLPVFGKVVTQGTREAAFV	112
Qy 128	FAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDS :	187
Db 1.13	YAISSAGVAFAVTRACSSGELDKCGCDRTVQGGSPQGFQWSGCSDNIAYGVAFSQSFVDV	172
Q <u>v</u> 188	GEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGD	24.4
Db ±73	RERSKGASSNRALMNLHNNEAGRKAILNNMRVECKCHGVSGSCEFKTCWKAMPPFRKVGN	232
Qy 2.45	VLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGR	304
Db 23,3	VLKEKFDGATEVEQSE1GSTKVLVPKNSQFKPHTDEDLVYLDSSPDFCDHDLK	285
Qy 3.65	LGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTR	364,
,	MGVLGTSGRQCNKTSKAIDGCELMCCGRGFHTDEVEVVERCSCKFHWCCSVKCKPCHRVV	345-
Qy	VLHEC 369	
Db 346	EIHTC 350	

Search completed: January 21, 2004, 10:47:16 Job time : 18 secs

#### GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein protein search, using sw model

Run on:

January 21, 2004, 10:44:42; Search time 20 Seconds

(without alignments)

1779.121 Million cell updates/sec

Title:

US-09-674-292-1

Perfect score:

2036

Sequence:

1 MGLWALLPGWVSATLLLALA......WCCHVSCRNCTHTRVLHECL 370

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched:

283308 seqs, 96168682 residues

rotal number of hits satisfying chosen parameters:

283308

Minimum DB seq length: 0

Markimum DB seq length: 2000000000

Cet processing: Minimum Match 0% Maximum Match 100%

Listing first 45 summaries

natabase :

PIR 76:\*

1: pir1:\*

pir2:\* 2:

pir3:\*

pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

		0				
Result		Query				
No.	Score	Match L	ength	DB	ID	Description
1	2036	100.0	370	1	TVHUT1	transforming prote
2.	2021	99.3	370.	1	TVMST1	transforming prote
3	2021	99.3	370	1	TVMVT1	transforming prote
4	1671	82.1	369	2	S13721	Wnt-1 protein prec
5	1595	78.3	370	2	S15013	wnt-1 protein - ze
6	1463	71.9	371	1	TVXLT1	transforming prote
7	1022.5	50.2	468	2	A29650	wingless (wg) prot
8	998	49.0	469	1	TVFFT1	transforming prote
9	873.5	42.9	352	2	A49146	developmental regu
10	866.5	42.6	303	2	S41156	wingless protein -
11	843.5	41.4	352	2	A39532	Wnt-3A protein - m
12	843.5	41.4	355	2	A35503	Wnt-3 protein - mo
1,3	836	41.1	351	2	C36470	Wnt-4 protein - mo

14	827	40.6	351	2	JC2451
15	822.5	40.4	352	2	A48828
16	787.5	38.7	365	2	JC7694
17	785	38.6	360	2	S00834
13	781	38.4	360	2	B36470
19	780.5	38.3	364	2	F36470
20	769	37.8	. 379	2	D36470
21	766.5	37.6	365	2	A48914
22	766.5	37.6	372	2	T09612
23	759.5	37.3	333	2	A47536
24	753	37.0	359	2	A56549
25	749	36.8	372	2	E36470
26	742	36.4	417	2	B59392
27	741	36.4	417	2	JC7693 ·
28	728.5	35.8	357	2	B56549
29	724.5	35.6	360	2	S34173
30	722.5	35.5	442	2	I50110
31	716.5	35.2	349	2	H36470
32	711.5	34.9	349	2	G36470
33	7.07	34.7	389	2,	I49263
34	707	34.7	389	<b>2</b>	A59392
35	703	34.5	360.	2	T26037
36	94 گ	34.1	360	2	S32695
37	690	.33.9	134	2	I50729
3,8	584	33.6	352	2	S24559
39	678	33.3	348	2	T10502
4 (i	671	33.0	1004	2 ,	A48821
41	€60.5	32.4	354	2	S34378
42	541	31.5	353	2	Í51572
43	631	31.0	372	2	\$32694
4.4	630.5	31.0	354	2	JC4152
45	630.5	31.0	358	2	T50506

Cwnt-4 protein pre wingless homolog X soluble-type glyco int-1-like protein Wnt-2 protein - mo Wnt-6 protein - mo Wnt-5a protein - m proto-oncogene Wnt secreted glycoprot. gene WNT3 protein cell-cell signalin Wnt-5b protein - m Wnt10a protein pro soluble-type glyco cell-cell signalin wnt-5c protein - A Wnt10a protein - z Wnt-7b protein - m Wnt-7a protein - m potential oncogene Wnt10b protein pre hypothetical prote Wnt-2 protein - Ca gene Wnt-1 protein Wnt-2 protein - fr Wnt-7a protein - I 🦠 Wnt-5 protein - fr wnt-11 protein - m maternal protein - 6 Wnt-1 protein - Ca Wnt-11 protein pre gene wnt8b protein

### ALIGNMENTS

```
RESULT 1
TVHUTI
transforming protein int-1 - human
C; Species: Homo sapiens (man)
C;Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text change 18-Jun-1999
C; Accession: A24674
R; van Ooyen, A.; Kwee, V.; Nusse, R.
EMBO J. 4, 2905-2909, 1985
A: Title: The nucleotide sequence of the human int-1 mammary oncogene;
evolutionary conservation of coding and non-coding sequences.
A; Reference number: A24674; MUID: 86055728; PMID: 2998762
A; Accession: A24674
A; Molecule type: DNA
A; Residues: 1-370 < VAN>
A; Cross-references: GB:X03072; NID:g33935; PIDN:CAA26874.1; PID:g33936
C; Genetics:
A; Gene: GDB: WNT1; INT1
A; Cross-references: GDB:120101; OMIM:164820
A; Map position: 12q13-12q13
A; Introns: 35/2; 120/1; 208/3
```

```
C; Keywords: proto-oncogene; transforming protein; transmembrane protein
F;1-48/Domain: transmembrane #status predicted <TMM>
                      100.0%;
                              Score 2036; DB 1;
 Query Match
                      100.0%; Pred. No. 2.1e-160;
 Best Local Similarity
                            0; Mismatches
                                            0;
                                                                  0:
 Matches 370; Conservative
                                               Indels
                                                           Gaps
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qy
            1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Db
         61 LOLLSRKORRLIRONPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Qÿ
            61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 126
Db
        121 CRETAFIFAITSAGVTHSVARSCSEGSIESC'ICDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Qу
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGFGGPDWHWGGCSDNIDFGRLF 180
Db
        181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
QУ
            181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
DЬ
        241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDFAHKPPSPHDLVYFEKSPNFCT 300
QV
            341 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
The
           YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
(jy
            301. YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Db
        361 THTRVLHECL 370
્રેપ્
            1111111
        361 THTRVLHECL 370
Db
RESULT 2
ZVMST1
transforming protein int-1 - mouse
N; Alternate names: Wnt-1 protein
C; Species: Mus musculus (house mouse)
C:Date: 17-Mar-1987 #sequence revision 17-Mar-1987 #text_change 18-Jun-1999
C; Accession: A23447; A36470; A01358
R; Fung, Y.K.T.; Shackleford, G.M.; Brown, A.M.C.; Sanders, G.S.; Varmus, H.E.
Mol. Cell. Biol. 5, 3337-3344, 1985
A; Title: Nucleotide sequence and expression in vitro of cDNA derived from mRNA
of int-1, a provirally activated mouse mammary oncogene.
A; Reference number: A93068; MUID: 86310810; PMID: 3018519
A: Accession: A23447
A; Molecule type: mRNA
A; Residues: 1-370 <FUN>
A;Cross-references: GB:M11943; NID:g198423; PIDN:AAA39322.1; PID:g293671
A; Note: the authors translated the codon GTG for residue 242 as Gly and GGC for
codon 243 as Val
R; Gavin, B.J.; McMahon, J.A.; McMahon, A.P.
```

C: Superfamily: int-1 transforming protein

Genes Dev. 4, 2319-2332, 1990

```
A; Title: Expression of multiple novel Wnt-1/int-1-related genes during fetal and
adult mouse development.
A; Reference number: A36470; MUID: 91122634; PMID: 2279700
A; Accession: A36470
A; Status: preliminary; nucleic acid sequence not shown; not compared with
conceptual translation
A; Molecule type: mRNA
A; Residues: 1-370 <GAV>
C:Genetics:
A; Gene: int-1
A; Introns: 35/2; 120/1; 208/3
C; Superfamily: int-1 transforming protein
C; Keywords: proto-oncogene; transforming protein; transmembrane protein
F;1-48/Domain: transmembrane #status predicted <TMM>
                                               Length 370;
                      99.3%;
                             Score 2021; DB 1;
 Query Match
                             Pred. No. 3.6e-159;
                      98.9%;
 Best Local Similarity
                            1; Mismatches.
                                                            Gaps
                                               Indels
 Matches 366; Conservative
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
97
            1 MGLWALLPSWVSTTLLLALTALPAALAANSSGRWWGIVNIASSTNLLTDSKSLQLVLEPS 60
Db
         61 LQLLSRKQRRLIRQNFGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
ŐЙ
            51 LQLLSRKQRRLIRQNPGJLHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
         121 CRETAFIFAITSAGVIRSVARSCSEGSIESCTCDYRRGPGGPDWHWGGCSDNIDFGRLF 180
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDN DFGRLF 180
Ei)
         331 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
QΫ
            181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
         241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Q7
            241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Db.
         301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
ĊУ
            360 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNC 360
Ob
         361 THTRVLHECL 370
ΩУ
            1 | 1 | 1 | 1 | 1 | 1
         361 THTRVLHECL 370
D_{\mathcal{D}}
RESULT 35
TVMVT1
transforming protein int-1 - mouse mammary tumor virus
C; Species: mouse mammary tumor virus, MMTV
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 18-Jun-1999
C; Accession: B23447; A01358; A23447
R; Coyen, A.V.; Nusse, R.
Cell 39, 233-240, 1984
```

```
A; Title: Structure and nucleotide sequence of the putative mammary oncogene int-
1; proviral insertions leave the protein-encoding domain intact.
A; Reference number: A90855; MUID: 85024897; PMID: 6091914
A; Accession: B23447
A; Molecule type: DNA
A; Residues: 1-370 < 00Y>
A;Cross-references: EMBL:K02593; NID:g198421; PIDN:AAA39321.1; PID:g387388
A; Note: the authors translated the codon GTG for residue 242 as Gly and GGC for
codon 243 as Val
C; Genetics:
A; Gene: int-1
A; Introns: 35/2; 120/1; 208/3
C; Superfamily: int-1 transforming protein
C; Keywords: oncogene; transforming protein; transmembrane protein
F;10-28/Domain: transmembrane #status predicted <TMM>
                      99.3%;
 Query Match
                             Score 2021; DB 1;
                                               Length 370;
                             Pred. No. 3.6e-159;
 Best Local Similarity
                      98.9%;
 Matches 366; Conservative
                                Mismatches
                                                Indels
                                            3:
                                                            Gaps .
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qу
            1 MGLWALLPSWVSTTLLLALTALPAALAANSSGRWWGIVNIASSTNLLTDSKSLQLVLEPS 60
Db
         51 LQLLSRKORRLIRONPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
\mathbb{Q}_{V}
            51 LQLLSEKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
Qу
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
            121 GRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Dh
         121 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240.
\Omega Y
            131 CREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMROECKCHGMSGSCTVRTCWMRLPTLR 240
122
        241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Qy
            241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Db.
        301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Qу
            301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Db.
        361 THTRVLHECL 370
ŨΛ
           -111111111
        361 THTRVLHECL 370
Pb
RESULT 4
S13721
Wnt-1 protein precursor, secreted - axolot1
C; Species: Ambystoma mexicanum (axolotl)
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 16-Jul-1999
C; Accession: S13721; S13722
R; Busse, U.; Guay, J.; Seguin, C.
```

Nucleic Acids Res. 18, 7439, 1990

```
A; Title: Nucleotide sequence of a cDNA encoding Wnt-1 of the Mexican axolotl
Ambystoma mexicanum.
A; Reference number: S13721; MUID: 91081334; PMID: 2259633
A; Accession: S13721
A; Status: preliminary; nucleic acid sequence not shown; translation not shown
A; Molecule type: mRNA
A; Residues: 1-369 <BUS>
A; Cross-references: EMBL:X55270; NID:g62424; PIDN:CAA38991.1; PID:g62425
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, October
R; Busse, U.; Guay, J.; Seguin, C.
Nucleic Acids Res. 19, 981, 1991
A; Title: Nucleotide sequence of a cDNA encoding Wnt-1 of the Mexican axolot1
Ambystoma mexicanum.
A; Reference number: S13722; MUID: 91204483; PMID: 2017393
A; Contents: annotation; reprinted sequence figure
C; Genetics:
A; Gene: Wnt-1
C; Superfamily: int-1 transforming protein
                      82.1%; Score 1671; DB 2; Length 369;
 Query Match
 Best Local Similarity
                      81.7%; Pred. No. 2.7e-130;
 Matches 290; Conservative
                           37; Mismatches
                                                Indels
Qу
         16 LLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQN 75
            25
         15 ILAFSSLSNTLAVNNSGRWWGVVNVVTSTNLLTDTKNVQLVLDPSLQLLSRKQRKLIRQN 74
         76 PGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSAGV 135
Q_{\tilde{\lambda}}^{i}
            75 PGILHSINSGLQSAMKECKWQFRSRRWNCPTTGGDNIFGKIVNKGCRETAFIFAITSAGV 134
Des
        136 THSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLR: 195
Qу
            135 THSVARSCSEGSIESCTCDYRRRGPGGTDWHWGGCSDNIDFGRVFGREFVDSSERGRDLR 194
Db
        196 FLMNLHNNEAGRTTVFSEMROECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASR 255
Qу
            195 YLMNRHNNEAGRMTVFSEMKQECKCHGMSGSCAVRTCWMRLPTFRAVGDFLKDRFDGASR 254
Эb
        256 VLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRAC 315
Qу
            Db
        255 VIYGNKGSNRASRVQTHHLEPENPTHKPPSPQDLVYFEKSPNFCTYNGKTGTSGTSGRVC 314
        316 NSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHECL 370
\Omega T
            DB
        315 NSSSLGLDGCELLCCGRGYRTKTQRVTERCHCTFHWCCHVSCLNCTNTQVLHECL 369
RESULT 5
S15013
wnt-1 protein - zebra fish
C; Species: Brachydanio rerio (zebra fish)
C;Date: 19-Mar-1997 #sequence revision 19-Mar-1997 #text change 16-Jul-1999
C: Accession: S15013
R; Molven, A.: Njolstad, P.R.; Fjose, A.
EMBO J. 10, 799-807, 1991
```

```
A; Title: Genomic structure and restricted neural expression of the zebrafish
wnt-1 (int-1) gene.
A; Reference number: S15013; MUID: 91184125; PMID: 2009859
A; Accession: S15013
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-370 < MOL>
A; Cross-references: GB: X58880; GB: X57301; NID: g62556; PIDN: CAA41687.1;
PID:g833600
C; Genetics:
A; Gene: wnt-1
C; Superfamily: int-1 transforming protein
                        78.3%;
                               Score 1595; DB 2; Length 370;
 Query Match
                              Pred. No. 5.1e-124;
 Best Local Similarity
                       75.7%;
                                 Mismatches
                                                  Indels
                                                               Gaps
 Natches 281; Conservative
                             47;
           1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS .60
QУ
                                     : | : : : |
           1 MRVLALLIA-VKAACYLLVSSLTGTGAVNNSGRWWGIVNVASSGNLLTNSKNVQLVIDPS 59
Db
          61 LOLLSRKORRLIRONPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Qу
             50 LALLSRRORKLIRONPGILHAIAAGLHTAIKECKWQFRNRRWNCPTTHSPNVFGKIVNRG 119
Db
         主主: GRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF: 180 °
Qyi ...
             120 CRETAFVFALTSAGVTHAVARSCSEGALESCTÖDYRRRGPGGPDWHWGGCSDNVEFGRMF 179
181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Qy
             ╊┦┩╂₽┦┩┈╬╌┦╂╃┦╌┆┈╂╂╏╏┦╂╂╃╬╩┧┧┈┦╂╏╒╬╁╏┩╂╏╏<del>┆</del>╇╃╂╏┞┞╂╂╏╂╏┼╂<del>╒</del>┵╢
Db
         180 GREFVDSSERGRDLRYLTNLHNNEAGRMTVASEMQQECKCHGMSGSCTVRTCWMRLPSFR 239
        241 AVGDVLRDRFDGASRVLYGNRGSNRAS-RAELLRLEPEDPAHKPPSPHDLVYFEKSPNFC 299
Q_{2}^{*}
                                            240 LVGDYLKDRFDGASRVVYANKGSNRASHRADPRHLEPENPAHKLPSSRDLVYFEKSPNFC 299
Db
         300 TYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRN 359
ĊΣ
             300 SYNGKTGTHGTSGRTCNSSSPALDGCELLCCGRGYKTRMEQVTERCHCTFHWCCHVSCLN 359
dd
         360 CTHTRVLHECL 370
QУ
             1 : : : 1 : 1
         360 CTSTQTVHQCL 370
RESULT 5.
TVXLT1
transforming protein int-1 precursor - African clawed frog
N; Alternate names: pxwnt-1 protein
C; Species: Xenopus laevis (African clawed frog)
C;Date: 30-Jun-1991 #sequence_revision 30-Jun-1991 #text_change 18-Jun-1999
C; Accession: S02113; S41630
R; Noordermeer, J.; Meijlink, F.; Verrijzer, P.; Rijsewijk, F.; Destree, O.
Nucleic Acids Res. 17, 11-18, 1989
A; Title: Isolation of the Xenopus homolog of int-1/wingless and expression
during neurula stages of early development.
```

```
A; Reference number: S02113; MUID: 89098373; PMID: 2911462
A; Accession: S02113
A; Molecule type: mRNA
A; Residues: 1-371 < NOO>
A;Cross-references: EMBL:X13138; NID:g65235; PIDN:CAA31528.1; PID:g65236
R;Gao, X.; Kuiken, G.A.; Baarends, W.M.; Koster, J.G.; Destree, O.H.J.
Oncogene 9, 573-581, 1994
A; Title: Characterization of a functional promoter for the Xenopus wnt-1 gene in
A; Reference number: S41630; MUID: 94119599; PMID: 8290268
A; Accession: S41630
A; Molecule type: DNA
A; Residues: 1-37 < CAO >
A; Cross references: EMBL: X56845
C; Genetics:
A;Gene: int-1
C; Superfamily: int-1 transforming protein
C; Keywords: glycoprotein; oncogene; transforming protein
F:1-19/Domain: signal sequence #status predicted <SIG>
F;20-371/Product: transforming protein int-1 #status predicted <MAT>
F;28,261,279,306,317,360/Binding site: carbohydrate (Asn) (covalent) #status
predicted
                             Score 1463; DB 1;
                      71.9%;
 Query Match
                             Pred. No. 4e-113;
                      70.0%;
 Best Local Similarity
                           50; Mismatches
                                           50; Indels
 Matches 261; Conservative
          1 MGLWALLFGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLL--TDSKSLQLVLE 58
                          5 IGLKTL---WV-----LAFSSLSNTIAVNNSGKWWGIVNVASAGNVLPGSDARPVPLVLD 59
Db
         39 PSLQLLSRKQRRLIRQNPGILHSVSGGIQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVN 118
            60 PSLQELSR-QKRLIRQNPGILQSITRGLHSAIRECKWHFRNRRWNCPTGTGNQVFGKIIN 118
         119 RGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGR 178
Qy.
            119 RGCRETAFVFAITSAGVTHSVARSCSEGSIESCSCDYRRRGPGGPDWHWGGCSDNIEFGR 178
Db
         179 LFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPT 238
QУ
              179 FIGREFVDSSERGRDLKYLVNLHNNQAGRLTVLTEMRQECKCHGMSGSCSLRTCWMRLPP 238
מם
         259 LRAVGDVLRDRFDGASRVLYGNRGSNR-ASRAELLRLEPEDPAHKPPSPHDLVYFEKSPN 297
QУ
                                           1111111
             239 FRSVGDALKDREDGASKVTYSNNGSNRWGSRSDPPHLEPENPTHALPSSQDLVYFEKSPN 298
Db
         298 FCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSC 357
Qу
            299 FCSPSEKNGTPGTTGRICNSTSLGLDGCELLCCGRGYRSLAEKVTERCHCTFNWCCHVTC 358
Db
         358 RNCTHTRVLHECL 370
QУ
             359 LNCTSSQIVHECL 371
Db
```

```
A29650
wingless (wg) protein precursor - fruit fly (Drosophila melanogaster)
N; Alternate names: int-1 homolog (Dint-1)
C; Species: Drosophila melanogaster
C;Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 16-Jul-1999
C; Accession: A29650; S41671; S41157
R;Rijsewijk, F.; Schuermann, M.; Wagenaar, E.; Parren, P.; Weigel, D.; Nusse, R.
Cell 50, 649-657, 1987
A:Title: The Drosophila homolog of the mouse mammary oncogene int-1 is identical
to the segment polarity gene wingless.
A; Reference number: A29650; MUID: 87273528; PMID: 3111720
A; Accession: A29650
A; Molecule type: mRNA
A; Residues: 1-468 < RIJ>
A;Cross-references: GB:M17230; NID:g157765; PIDN:AAA28647.1; PID:g157766
R; van den Heuvel, M.; Harryman-Samos, C.; Klingensmith, J.; Perrimon, N.; Nusse,
R.
EMBO J. 12, 5293-5302, 1993
A; Title: Mutations in the segment polarity genes wingless and porcupine impair
secretion of the wingless protein.
A; Reference number: S41671; MUID: 94085405; PMID: 8262072
A; Accession: S41671
A;Status: preliminary; not compared with conceptual translation
* Molecule type: nucleic acid
A; Residues: 1-468 < VAN>
P; Nagy, L.M.; Carroll, S.
Nature 367, 460-463, 1994
A; Title: Conservation of wingless patterning functions in the short-germ embryos
of Tribolium castaneum.
A; Referençe number: S41156; MUID: 94150623; PMID: 8107804
A:Accession: S41157
A; Status: not compared with conceptual translation
A; Molecule type: mRNA
A; Residues: 101-468 < NAG>
E; Genetics:
A; Gene: FlyBase:wg
A; Cross-references: FlyBase: FBgn0004009
C:Superfamily: int-1 transforming protein
C: Keywords: glycoprotein
                        50.2%; Score 1022.5; DB 2; Length 468;
  Query Match
                        45.7%; Pred. No. 1.2e-76;
 Best Local Similarity
 Mátches 203; Conservative 43; Mismatches 89; Indels 109;
          31 SGR-----WWGIVNVASSTNLLTDSKSLQLVLEPSL-QLLSRKQRRLIRQNPGILHSVSG 84
Qy.
                     30 SGRGRGSMWWGIAKVGEPNNI----TPIMYMDPAIHSTLRRKQRRLVRDNPGVLGALVK 84
Do
          85 GLOSAVRECKWOFRNRRWNCPT---APGPHLFGKIVNRGCRETAFIFAITSAGVTHSVAR 141
Qy.
                 85 GANLAISECQHQFRNRRWNCSTRNFSRGKNLFGKIVDRGCRETSFIYAITSAAVTHSIAR 144
         142 SCSEGSIESCTCDY--RRRGP------GGPDWHWGGCSDNIDFGRLFGREFVDSGE 189
Qу
             145 ACSEGTIESCTCDYSHQSRSPQANHQAGSVAGVRDWEWGGCSDNIGFGFKFSREFVDTGE 204
Db
         190 KGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDR 249
Qy:
```

```
205 RGRNLREKMNLHNNEAGRAHVQAEMRQECKCHGMSGSCTVKTCWMRLANFRVIGDNLKAR 264
Db
                                   -RGSNRASRAELL
        250 FDGASRVLYGN-
QУ
                                    +11
                                            :
        265 FDGATRVQVTNSLRATNALAPVSPNAAGSNSVGSNGLIIPQSGLVYGEEEERMLNDHMPD 324
Db
                                                    -RLEPEDPAHKPPSP 286
QУ
                                                     : | | | : | | | | |
         325 ILLENSHPISKIHHPNMPSPNSLPQAGQRGGRNGRRQGRKHNRYHFQLNPHNPEHKPPGS 384
Db
        287 HDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCN 346
Qν
             385 KDLVYLEPSPSFCEKNLRQGILGTHGRQCNETSLGVDGCGLMCCGRGYRRDEVVVVERCA 444
Db
         347 CTFHWCCHVSCRNCTHTRVLHECL 370
Qy
            445 CTFHWCCEVKCKLCRTKKVIYTCL 468
RESULT 8
TVFFT1
transforming protein int-1 - fruit fly (Drosophila melanogaster)
C. Species: Drosophila melanogaster
CaDate: 30-Jun-1991 #sequence revision 30-Jun-1991 #text change 16-Feb-1997
C; Accession: A31337
R; Uzvoelgyi, E.; Kiss, I.; Pitt, A.; Arsenian, S.; Ingvarsson, S.;
                                                           Udvardy,
Hamada, M.; Klein, G.; Suemegi, J.
Proc. Natl. Acad. Sci. U.S.A. 85, 3034-3038, 1988
Militle: Drosophild homolog of the murine Int-1 protooncogene.
A Reference number: A31337; MUID:88203634; PMID:3129722
A; Accession: A31337
A Molecule type: mRNA
A. Residues: 1-469 <UZV>
@; Genetics:
A; Gene: int-1
A; Cross-references: FlyBase: FBgn0004009
C; Superfamily: int-1 transforming protein
C: Keywords: glycoprotein; oncogene; transforming protein
F;437103,108,415/Binding site: carbohydrate (Asn) (covalent) #status predicted
                       49.0%; Score 998; DB 1; Length 469;
Query Match
                      43.2%; Pred. No. 1.2e-74;
  Best Local Similarity
Matches 203; Conservative 53; Mismatches 100; Indels 114;
          10 WVSATLLLALAALPAALA----ANSSGR ----WWGIVNVASSTNLLTDSKSLQLVLEPS 60
ĢУ
                                   1: | | : : | ;
           5 YIFVICLMALCSGGSSLSQVEGKQKSGRGRGSMWWGIAKVGEPNNI----TPIMYMDPA 59
Dh
          61 L-QLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPT---APGPHLFGKI 116
QΥ
                60 IHSTLRRKQRRLVRDNPGVLGALVKGANLAISECQHQFRNRRWNCSTRNFSRGKNLFGKI 119
Db
         117 VNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCDY--RRRGP-
Ov
            120 VDRGCRETSFIYAITSAAVTHSIARACSEGTIESCTCDYSHQSRSPQANHQAGSVAGVRD 179
Lb
```

```
165 WHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMS 224
Qу
            180 WECGGCSDNIGFGFKFSREFVDTGDRGRNLREKMNLHNNEAGRAHVQAEMRQECKCHGMS 239
DD
         225 GSCTVRTCWMRLPTLRAVGDVLRDRFDGASRV------
QV
            ]|||:|||:||
         240 GSCTVKTCWMRLANFRVIGDNLKARFDGATRVQVTTSLRATNALAPVSPNAAGSNSVGSN 299
Db
                                                       ----GNRGSNRA 266
Qу
                                                           1 11
         300 GLIIPQSGLVYGEEEEERMLNDHMPDILLENSHPISKIHHPNMPSPNSLPQAGQRGGRNG 359
         267 SRAEL----- LRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSP 320
Qy.
            360 RRQGRNHNRYHFQLNPHNPEHKPPGSKDLVYLDPSPSFCEKNLRQGILGTHGRQCNETSL 419
         321 ALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHECL 370
             420 GVDGCGLMCCGRGYRRDEVVVVDRCACTFHWCCEVKCKLCRTKKVIYTCL 469
Dio
RESULT 9
A49146
developmental regulator wnt-4 - African clawed frog
C:Species: Xenopus laevis (African clawed frog)
C;Date: 21-Jan-1994 #sequence revision 18-Nov-1994 #text_change 10-Nov-1995
Accession: A49146; C49764
%,McGrew, L.L.; Otte, A.P.; Moon, R.T.
Development 115, 463-473, 1992
A, Title: Analysis of Xwnt-4 in embryos of Xenopus laevis: a Wnt family member
expressed in the brain and floor plate.
A; Reference number: A49146; MUID: 93048810; PMID: 1425335
A: Accession: A49146
A/Status: preliminary; not compared with conceptual translation
A; Molecule type: mRNA
A; Residues: 1-352 < MCG>
A: Experimental source: neurula stage embryos
A; Note: sequence extracted from NCBI backbone (NCBIP:117112)
R; Christian, J.L.; Gavin, B.J.; McMahon, A.P.; Moon, R.T.
Dev. Biol. 143, 230-234, 1991
A; Title: Isolation of cDNAs partially encoding four Xenopus Wnt-1/int-1-related
proteins and characterization of their transient expression during embryonic
development.
A; Reference number: A49764; MUID: 91122437; PMID: 1991549
A, Accession: C49764
A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 262-295, 'H', 297-335 < CHR >
A; Cross-references: GB:M55055
C; Superfamily: int-1 transforming protein
                       42.9%; Score 873.5; DB 2; Length 352;
  Ouery Match
  Best Local Similarity 44.6%; Pred. No. 1.7e-64;
  Matches 164; Conservative 62; Mismatches 121; Indels
                                                         21; Gaps
           6 LLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLS 65
Qу
```

```
1 MTPEYFLRSLLMMILAVFSANASN-----WLYLAKLSSVGSISEEETCEKLKGP----I 50
Db
         66 RKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTA-PGPHLFGKIVNRGCRET 124
Qу
           51 QRQVQMCKRNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDTGNQVFGKIINRGTREA 110
Db
        125 AFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREF 184
Qу
            111 AFVYAITSAGVTHSVTRACSSGDLEKCGCDRTVHGVSPQGFQWSGCSDNILYGVAFSQSF 170
Db
        185 VDSGEK---GRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRA 241
Qу
            171 VDVRERSKGGSSSRALMNLHNNEAGRKAILNNMRVECKCHGVSGSCEVKTCWKAMPTFRK 230
Db
        242 VGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTY 301
QУ
                                      231 VGNVLKEKFDGATEVEQKKIGSTKV------LVPKNSQFKPHTDEDLVYLDSSPDFCDH 283
Db
        302 SGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCT 361
Qý
             284 DLKNGVLGTTGRDCNKTSKAIDGCELMCCGRGFHTEEVEIVERCSCKFHWCCFVKCKQCH 343
Db
        362 HTRVLHEC 369
Qу
               : | |
        344 KVVEMHTC 351
Db
RESULF 10%
wingless protein - red flour beetle (fragment)
C; Species: Tribolium castaneum (red flour beetle)
C;Date: 07-Sep-1994 #sequence_revision 19-Apr-1996 #text_change 16-Feb-1997
C; Accession: 641156
R; Nagy, L.M.; Carroll, S.
Nature 367, 460-463, 1994
A; Title: Conservation of wingless patterning functions in the short-germ embryos
of Tribolium castaneum.
A; Reference number: S41156; MUID: 94150623; PMID: 8107804
A: Accession: S41156
A; Status: not compared with conceptual translation
A; Molecule type: mRNA
A; Residues: 1-303 < NAG>
C; Genetics:
A; Gene: wg
C; Superfamily: int-1 transforming protein
C; Keywords: glycoprotein
                      42.6%; Score 866.5; DB 2; Length 303;
  Ouery Match
                      53.5%; Pred. No. 5.4e-64;
  Best Local Similarity
  Matches 162; Conservative 39; Mismatches 61;
                                              Indels
         109 GPHLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCTCD--YRRR----GPGG 162
QΥ
            1 GKNLFGKIVDKGCRETAFIYAITSAAVTHAIARACSEGSIDTCNCETHYKGRPHVSGNGG 60
Db
         163 --- PDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQ 216
Q٧
```

```
51 GALAGVRDFEWGGCSDNIGFGFTVSREFVDAGERGKTIREKMNLHNNEAGRWHVKDQMRQ 120
Db:
        217 ECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYG--NRGSNRA----- 266
QУ
            : | : | |
        121 ECKCHGMSGSCTIKTCWMRLPPFRVIGDLLKDRFDGASHVAASGHHRNNNNAHONRPPKN 180
Db
QУ
                      -SRAELLR-----LEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGT 307
                       1: 1
                                   181 PKLNAISSNSIHSKRENRRKHKYGFQLKPFNPEHKPPGTKDLVYYEMSPGFCEKNPKLGI 240
כלוו
        308 AGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLH 367
Qу
             Db
        241 OGTHGRLCNDTSMGVDGCDIMCCGRGYRTQEVVVFERCNCTFHWCCEVKCDVCRTKRTIH 300
        368 ECL 370
Qу
             :
        301 TCV 303
Db
RESULT 11
A39532
Wnt-3A protein - mouse
C; Species: Mus musculus (house mouse)
C;Date: 24-Jan-1992 #sequence revision 24-Jan-1992 #text change 16-Jul-1999
C; Accession: A39532
R; Roelink, H.; Nusse, R.
Genes Dev. 5, 381-388, 1991
A) Title: Expression of two members of the Wnt family during mouse development-
restricted temporal and spatial patterns in the developing neural tube.
A: Reference number: A39532; MUID: 91160971; PMID: 2001840
A Accession: A39532
A, Status: preliminary
A Molecule type: mRNA
A; Residues: 1-352 < ROE>
A; Cross-references: GB: X56842; NID: g55433; PIDN: CAA40173.1; PID: g55434
C; Superfamily: int-1 transforming protein
                             Score 843.5; DB 2;
 Query Match
                       41.4%;
                                                Length 352:
 Best Local Similarity 45.4%; Pred. No. 5e-62;
                           53; Mismatches 130;
 Matches 161; Conservative
                                                Indels
                                                        11:
Ωý
         16 LLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQN 75
            7 LLVLCSLKQAL--GSYPIWWSLAVGPQYSSL----STQPILCASIPGLVPKQLRFCRNY 59
DE
         76 PGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAG 134
ÔУ
              !: ||: |::: ::||: ||| || || || || ||
                                            :|| :::: ||:||: || ||
         60 VEIMPSVAEGVKAGIQECQHQFRGRRWNCTTVSNSLAIFGPVLDKATRESAFVHAIASAG 119
Db
        135 VTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDL 194
QУ
            120 VAFAVTRSCAEGSAAICGCSSRLQGSPGEGWKWGGCSEDIEFGGMVSREFADARENRPDA 179
Db
        195 RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGAS 254
Qy-
               180 RSAMNRHNNEAGRQAIASHMHLKCKCHGLSGSCEVKTCWWSQPDFRTIGDFLKDKYDSAS 239
Lb:
```

```
255 RVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRA 314
Qу
                                  240 EMVV---EKHRESRGWVETLRPRYTYFKVPTERDLVYYEASPNFCEPNPETGSFGTRDRT 296
Db
        315 CNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
0ν
            297 CNVSSHGIDGCDLLCCGRGHNARTERRREKCHCVFHWCCYVSCQECTRVYDVHTC 351
Db
RESULT 12
A35503
Wnt-3 protein - mouse
C; Species: Mus musculus (house mouse)
C;Date: 09-Nov-1990 #sequence_revision 09-Nov-1990 #text_change 16-Jul-1999
C:Accession: A35503
R;Roelink, H.; Wagenaar, E.; Lopes da Silva, S.; Nusse, R.
Proc. Natl. Acad. Sci. U.S.A. 8%, 4519-4523, 1990
A; Title: Wnt-3, a gene activated by proviral insertion in mouse mammary tumors,
is homologous to int-1/Wnt-1 and is normally expressed in mouse embryos and
adult brain.
A; Reference number: A35503; MUID: 90280407; PMID: 2162045
A; Accession: A35503
A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-355 < ROE>
A;Cross-references: GB:M32502; NID:g198428; PIDN:AAB38109.1; PID:g293672
C; Superfamily: int-1 transforming protein
                      41.4%; Score 843.5; DB 2; Length 355;
  Query Match
                      46.0%; Pred. No. 5.1e-62;
  Best Local Similarity
         155; Conservative 53: Mismatches 120: Indels
                                                           Gaps
 Matches
          34 WWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSEKQRRLIRQNPGILHSVSGGLQSAVREC 93
                             26 WWSLAIGQQYTSLAS----QPLLCGSIPGLVPKQLRFCRNYIEIMFSVAEGVKLGIQEC 30
Db.
          94 KWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCT 152
QУ
                             81 QHQFRGRRWNCTTIDDSLAIFGPVLDKATRESAFVHATASAGVAFAVTRSCAEGTSTICG 140
ď
         153 CDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
QУ
               141 CDSHHKGPPGEGWKWGGCSEDADFGVLVSREFADARENRPDARSAMNKHNNEAGRTTILD 200
Db
         213 EMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
QУ
             201 HMHLKCKCHGLSGSCEVKTCWWAQPDFRAIGDFLKDKYDSASEMVV-
                                                     --EKHRESRGWVE 257
Db
         273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGR 332
Qу
                    258 TLRAKYALFKPPTERDLVYYENSPNFCEPNPETGSFGTRDRTCNVTSHGIDGCDLLCCGR 317
Db
         333 GHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
            : | |
         318 GHNTRTEKRKEKCHCVFHWCCYVSCQECIRIYDVHTC 354
Db
```

```
RESULT 13
C3.6470
Wnt-4 protein - mouse
C; Species: Mus musculus (house mouse)
C;Date: 19-Apr-1991 #sequence_revision 19-Apr-1991 #text_change 16-Jul-1999
C;Accession: C36470
R; Gavin, B.J.; McMahon, J.A.; McMahon, A.P.
Genes Dev. 4, 2319-2332, 1990
A; Title: Expression of multiple novel Wnt-1/int-1-related genes during fetal and
adult mouse development.
A; Reference number: A36470; MUID: 91122634; PMID: 2279700
A: Accession: C36470
A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-351 <GAV>
A;Cross-references: GB:M89797; NID:g202401; PIDN:AAA40566.1; PID:g202402
C; Superfamily: int-1 transforming protein
                       41.1%; Score 836, DB 2; Length 351;
  Query Match
  Rest Local Similarity 44.5%; Pred. No. 2.1e-61;
                             55; Mismatches 124; Indels
                                                          20;
                                                              Gaps:
  Matches 160; Conservative
          14 TLLLÁLAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
C y
             : | | | | : | | | : |
                            --WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
           9 ŞLRLLVFAVFSAAASN---
          74 QNPGITHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
037
             59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Oy
             1::
         119 GVAFAVTRACSSGELEKCGCDRIVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
         193 -- DI-RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
ÇУ
                :| | |
         179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Qу
                                                           | | :
                                         11:11
                                 -LVPRNAQFKPHTDEDLVYLEPSPDFCEQDIRSGVLGT 291
Db
         311 AGRACNSSSPALDGCELLCCGRGHRTFTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
\Omega Y
                                        : [] [ ] [] [ ] [ ]
              292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCGCRFHWCCFVKCRQCQRLVEMHTC 350
Dh
RESULT 14
JC2451
Cwnt-4 protein precursor - chicken
C; Species: Gallus gallus (chicken)
C;Date: 21-Mar-1995 #sequence_revision 26-May-1995 #text_change 03-May-1996
C; Accession: JC2451
R; Yoshioka, H.; Ohuchi, H.; Nohno, T.; Fujiwara, A.; Tanda, N.; Kawakami, Y.;
Noji, S.
Biochem. Biophys. Res. Commun. 203, 1581-1588, 1994
```

```
A; Title: Regional expression of the Cwnt-4 gene in developing chick central
nervous system in relationship to the diencephalic neuromere D2 and a dorsal
domain of the spinal cord.
A; Reference number: JC2451; MUID: 95032034; PMID: 7945308
A. Accession: JC2451
A; Molecule type: mRNA
A; Residues: 1-351 <YOS>
C; Comment: This protein is involved in segmentation of forebrain into the
neuromere D2 and in differentiation of the dorsal region of the spinal cord.
C; Genetics:
A;Gene: Cwnt-4
C; Superfamily: int-1 transforming protein
C; Keywords: glycoprotein
F;1-36/Domain: signal sequence #status predicted <SIG>
F:37-351/Product: Cwnt-4 protein #status predicted <MAT>
F:38,297/Binding site: carbohydrate (Asn) (covalent) #status predicted
                        40.6%; Score 827; DB 2; Length 351;
 Query Match
Best Local Similarity 43.1%; Pred. No. 1.2e-60;
                            64; Mismatches 121; Indels
 Matches 158; Conservative
                                                               Gaps
           8 PGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRK 67
Qу
                  :||| : || :| |:|
                                     :
                                            ::: ::::
                                                              1: 1::
           3 PEYFLRSLLLIILATFSANASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQR 52
          65 QRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFI 1270
                                                     :|||:|:|||||
             33 QVQMCKRNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDTLPVFGKVVTQGTREAAFV 112
Tile
         185 FAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGP--DWHWGGCSDNIDFGRLFGREFV
SY
             网络门口 引出引用 红土州外外州
                                               Ø.,
         113 WAISSAGVAFAVTRACSSGELDKCGCD--RTVQGGPRQGFQWSGCSDNIAYAVAFSQSFV 170
Do
. .
         186 DSGEKGRDL---RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAV 242
QΥ
                        1::
         171 DVRERSKGASSNRALMNLHNNEAGRKAILNNMRVECKCHGVSGSCEFKTCWKAMPPFRKV 230
Nb.
         243 GDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYS 302
Oy o
                                         || :
             1:||:::||||:
         231 GNVLKEKFDGATEVEQSEIGSTKV-----LVPKNSQFKPHTDEDLVYLDSSPDFCDHD 283
23
         303 GRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTH 362
                 284 LKNGVLGTSGRQCNKTSKAIDGCELMCCGRGFHTDEVEVVERCSCKFHWCCSVKCKPCHR 343
Do
         363 TRVLHEC 369
ŎΛ
                : | |
Db.
         344 VVEIHTC 350
RESULT 15
A48828
wingless homolog Xwnt-3A protein - African clawed frog
CaSpecies: Xenopus laevis (African clawed frog)
C,Date: 01-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 23-Feb-1997
C; Accession: A48828
R; Wolda, S.L.; Moody, C.J.; Moon, R.T.
```

```
Dev. Biol. 155, 46-57, 1993
A; Title: Overlapping expression of Xwnt-3A and Xwnt-1 in neural tissue of
Xenopus laevis embryos.
A; Reference number: A48828; MUID: 93106336; PMID: 8416844
A; Accession: A48828
A; Status: preliminary; nucleic acid sequence not shown; not compared with
conceptual translation
A; Molecule type: mRNA
A; Residues: 1-352 <WOL>
A; Note: sequence extracted from NCBI backbone (NCBIP:121343)
C; Superfamily: int-1 transforming protein
 Query Match
                      40.4%; Score 822.5; DB 2; Length 352;
 Best Local Similarity 43.4%; Pred. No. 2.7e-60;
                          57; Mismatches 133; Indels
 Matches 154; Conservative
                                                           Gaps
         16 LLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQN 75
Qу
            |\cdot|: |\cdot|
                            7 LLLIIGLHQVLATYPI - - WWSLAVGQQYSSLGT - - - - - QPIPCGTIPGLVAKQMRFCRNY 59
Db
         76 PGILHSVSGGLOSAVRECKWOFRNRRWNCPTA-PGPHLFGKIVNRGCRETAFIFAITSAG 134
QУ
              1: ||: |:: ::||: ||| || || ||
                                            -:|| :::: ||:||: || |||
         60 MEIMPSVAEGVKIGIQECQHQFRGRRWNCTTVNDNLAIFGPVLDKATRESAFVHAIASAG 119 (
Db
         135 VTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDL 194
Qу
         120 VAFAVTRSCAEGSATICGCDTHHKGPPGEGWKWGGCSEDMDEGSMVSREFADARENRPDA 179
         195 RELMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGAS 254
(iv)
         Dis.
       - 180 RSAMNRHNNEAGRTSILDHRHLKCKCHGLSGSCEVKTCWWSQPDFRVIGDYLKDKYDSAS 239
255 RVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRA 314
            240 EMVV---EKHRESRGWVETLRPKYTFFKPPIERDLIYYESSPNFCEPNPETGSFGTRDRE 296
Db
         315 CNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
            237 CNVTSHGIDGCDLLCCGRGQNTRTEKRKEKCHCIFHWCCYVSCQECMRVYDVHTC 351
Dh.
```

Search completed: January 21, 2004, 10:48:44 Job time: 21 secs

#### GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

January 21, 2004, 10:37:11; Search time 44 Seconds Run on:

(without alignments)

1334.746 Million cell updates/sec

US-09-674-292-1 Title:

2036 Perfect score:

1 MGLWALLPGWVSATLLLALA.....WCCHVSCRNCTHTRVLHECL 370 Sequence:

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

1107863 seqs, 158726573 residues Searched:

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Phat-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

A\_Geneseq\_19Jun03:\* Database :

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:\* j.

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:\*

/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:\* 3:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1983.DAT:\* 4:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1984.DAT:\* 5:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1985.DAT:\* 6:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1986.DAT:\* 7: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1987.DAT:\*

8:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1988.DAT:\* 9:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1989.DAT:\*

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1990.DAT:\* 11:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1991.DAT:\* 12:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1992.DAT:\* 13:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1993.DAT:\* 14:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1994.DAT:\* 15:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1995.DAT:\* 16:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1996.DAT:\* 17:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1997.DAT:\* 18:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA1998.DAT:\*

/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1999.DAT:\* 20:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA2000.DAT:\* 21:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:\* 22:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:\* 23:

/SIDS1/gcgdata/geneseq/geneseqp-embl/AA2003.DAT:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed,

# and is derived by analysis of the total score distribution.

## SUMMARIES

			ફ					
Res	sult		Query					
	No.	Score	Match	Length	DB	ID	·	Description
			100.0	270	20	AAY56108		Human int-1 mammar
	1	2036	100.0			AAY70733		Human Wnt-1 protei
	2	2036	100.0	370	21 21	AAY57594		Human Wnt-1 protei
	3	2036	100.0	370				WNT-1 protein. Un
	4	2036	100.0	370	24	AAE34038		Human WNT-1 prote
	5	2036	100.0	370	24	ABU55882		Human Wnt-1 protei
	6	2025	99.5	370	21	AAB19786		Drosophila melanog
	7	1022.5	50.2	468	22	ABB61007		Murine Wnt-3a prot
	8	843.5	41.4	352	21	AAY57596		Human Wnt-3 protei
	. 9	340.5	41.3		20	AAW30618		Human PRO864 prote
	10	840	41.3	351	20	AAY41719		Human PRO864 (UNQ4
	11	840	41.3	351	21	AAB44275		Wnt-4AF and Wnt-5c
:	12	840	41.3		21	AAY57270.		Wnt-4AF and Wnt-5c
	1.3	540	41.3		21	AAY57273		Human PRO polypept
	14	340	41.3		22	AAU29063	•	Human polypeptide
	15	840	41.3	351	22	AAM38889		Human PRO864 prote
	16	840	4.1.3	351	24	ABU71151		Human secreted/tra
	1.7	and the second second	41.3	351	24	ABU65608		Novel human secret
	1.8	840	41.3		24	ABU65941		the state of the s
	19	840	41.3	351	24	ABU67445		Human secreted/tra
	50	34.0	41.3	351		ABU61105	f · · · · · · · · · · · · · · · · · · ·	Human PRO864 polyp
	25.	840	41.3	351	24			Human PRO polypept
	2.2	340	41.3		24	ABU58439		Human PRO polypept
٠	23	34.0	41.3	351	24	ABU55975		Human secreted/tra
٠. ,	24	940		351	24			Human PRO polypept
	2.5	240	41.3	351		*		Human secreted/tra
	36	340	41.3					Human polypeptide
	27	3.40	41.3					Human gene 3 encod
	28		41.1					Human NOV1b protei
	29	834.5	41.0	352				Human Wnt-like pro
	30	834	41.0	351				Signal transductio
	31	834	41.0					WNT4 protein. Uni
	* 32	834						Human WNT-4 prote
	3-3	827.5						Human Wnt-like pro
	. 34	827.5	40.6					Human Wnt-like pro Wnt-4AF and Wnt-5c
	35	804	39.5				•	
	36.		38.7					Human Wnt-6 protei
	37	787.5	38.7					Human membrane or
	38	787.5	38.7			•		Amyloid-beta prote
	39	787.5	38.7					Human WNT-6 prote
	4.0	785						Human Wnt-2 protei
	41	785						Human Wnt-2 protei
	42	785	38.6			AAE34039		WNT-2 protein. Un
	43	785	38.6					Human WNT-2 prote
	44		37.6					Human Wnt-5a prote
	4.5	766.5	37.6	365	21	AAY57600		Human Wnt-5a prote

```
RESULT 1
AAY56108
     AAY56108 standard; Protein; 370 AA.
XX
AC
     AAY56108;
XX.
DT
     08-FEB-2000
                  (first entry)
XX
     Human int-1 mammary oncogene protein sequence.
DΕ
XX
     Human; Wnt1; hWnt1; int-1; mammary oncogene; Alzheimer's disease;
KW
KW
     Wingless 1; apoptosis.
XX
OS
     Homo sapiens.
XX
ЭΝ
     CA2200794-A.
XX
PD
     24-SEP-1998.
XX
PF
     24-MAR-1997;
                    97CA-2200794.
XX
PR
     24-MAR-1997;
                    97CA-2200794.
XX.
     (UTOR ) UNIV TORONTO GOVERNING COUNCIL.
\supseteq A
XX
                 St George Hyslop PH;
ÐΙ
     Fraser RE,
XX
-0
     WPI; 1999-620995/54.
N-PSDB; AAZ35965.
XX
     Nucleic acids encoding the protein Wingless 1 which is involved in the
Fer.
     development of Alzheimer's disease and may be used to identify and
241
     produce candidate therapeutic agents -
TQ
XX
     Disclosure; Page -; 26pp; English.
PS
XX
     The present invention describes nucleic acids and proteins designated
CC
     Wingless 1 (wnt1), which are involved in the development of Alzheimer's
CC
     disease. The nucleic acids have a variety of uses for preventing,
CC
     diagnosing and treating Alzheimer's disease. For example, nucleic acids
CC
     (or vectors) encoding wnt1 may be administered to treat Alzheimer's
CC
     disease by rectifying mutations or deletions in a patient's genome that
CC
     affect the activity of wnt1 by expressing inactive proteins or to
CC
     supplement the patients own production of wnt1 polypeptides. Conversely,
CC
     antisense nucleic acid molecules may be administered to down regulate
ĊC
     wnt1 expression by binding with the cells own wnt1 genes and preventing
CC
     their expression. The nucleic acid probes and complementary sequences
CC
     may also be used as DNA probes in diagnostic assays (e.g. polymerase
CC
     chain reactions (PCR)) to detect and quantitate the presence of similar
CC
     nucleic acid sequences in samples, and hence which patients may be in
CC
     need of restorative therapy. They may also be used to study the
CC
     expression and function of wnt1 polypeptides and their role in the
CC
     pathology of Alzheimer's and in normal metabolism. Anti-wnt1 antibodies
CC
     and wntl antagonists may also be used to down regulate wntl expression
CC
     and activity and increase rates of apoptosis. The present sequence
CC
```

represents the human int-1 mammary oncogene protein encoded by the

GENBANK accession # X03072 given in Z35965 from the present invention.

CĊ

```
CC
    from the GENBANK number given.
XX
SQ
             370 AA;
    Sequence
                      100.0%;
                              Score 2036; DB 20;
                                               Length 370;
 Query Match
 Best Local Similarity
                      100.0%;
                              Pred. No. 5.2e-195;
                               Mismatches
                                               Indels
                                                                  0;
             Conservative
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qу
            1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
מת
         61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Qу
            61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
0.5
        121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Çу
        121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Db
        181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Qу
            181 GREFVDSGEKGRDLRFLMNLHNNEAGR'TTVFSEMRQECKCHGMSGSC'TVRTCWMRLPTLR 240
Db
        243 AVGDVLRDRFDGASKVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
            241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFC'C 300
Ob
        %01 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCGHVSCRNC 360
27
            301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Dis
        361 THTRVLHECL 370
07
            361 THTRVLHECL 370
RESULT 2
AAY70733
ID
    AAY70733 standard; protein; 370 AA.
XX
    AAY70733;
AC
)r\mathbf{X}
               (first entry)
DT
    24-JUL-2000
XX
    Human Wnt-1 protein.
DE:
XX
    Human Wnt-1; Wnt antagonist; contraceptive; contraceptive vaccine;
KW
    occyte development; female primate contraception; occyte viability;
KM
    monoclonal antibody; Wnt signalling.
ΧW
XX
OS
    Homo sapiens.
XX
PN
    WO200021555-A1.
XX
PΠ
    20-APR-2000.
```

The present sequence is not given in the specification but is derived

```
XX
                 99WO-US23640.
PF
    13-OCT-1999;
XX
                 98US-0104355.
PR
    15-OCT-1998;
XX
PΑ
    (HARD ) HARVARD COLLEGE.
XX
               Parr BA,
                       Vaino S;
ΡI
    Mcmahon AP,
XX
    WPI; 2000-317845/27.
DR
XX
    Contraceptive composition for inhibiting oocyte development in a female
PT
    primate comprises a Wnt polypeptide antagonist
PT.
XX
    Example 3; Page 23; 57pp; English.
PS
XX.
    The patent discloses a method of female primate contraception comprising
CC
    administering an antagonist of a Wnt polypeptide, inhibiting oocyte
CC
    development. Wnt polypeptides are useful for promotive maturation of an
CC.
    immature oocyte. Wnt polypeptides are also useful for increasing the
CC
    number of mature oocytes and to enhance oocyte viability. The present
CC
    sequence is the human Wnt-1 protein. Soluble fragments of Wnt
CC
    polypeptides have the ability to inhibit Wnt signalling, e.g., by
CC
    blocking binding of a naturally-occurring Wnt protein to its receptor.
CC
    They may be used to generate monoclonal antibodies which can inhibit
CC
CC
    occyte development.
XX
              370 AA;
    Sequence
                                                Length 370;
                      100.0%; Score 2036; DB 21;
  Quer: Match
                      100.0%; Pred. No. 5.2e-195;
 Dest Local Similarity
                            0; Mismatches
. Natched 370; Conservative
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Q_{X}
            1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Db
          61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
ЭУ
            61 LOLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
\Omega \Gamma
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Db
         240 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR
ÇУ
            181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Db
         241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
QУ
            241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Db
         301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Qу
```

301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360

Db

```
361 THTRVLHECL 370
Qу
             - | | | | | | | | | |
          361 THTRVLHECL 370
Db.
RESULT 3
AAY57594
     AAY57594 standard; Protein; 370 AA.
XX
AC
     AAY57594;
XX
DT
     02-MAR-2000
                   (first entry)
XX
     Human Wnt-1 protein.
DE
XX
     Wnt-1; neuronal growth; differentiation; regeneration;
ΚW
     dorsal neural progenitor cell; neurodegenerative disease;
KW
     Parkinson's disease; amyotrophic lateral sclerosis;
KW
     diffuse Lewy body disease; cortical-basal ganglionic degeneration;
XW .
     Hallervorden-Spatz disease; myoclonic epilepsy.
ΚW
XX
     Homo sapiens.
OS
XX
     WO9957248-A1.
F'N
XX
     11-NOV-1999.
\mathbb{D}\mathbf{D}
\dot{\mathbf{X}}\mathbf{X}
                    98WO-US08716.
PF.
     30-APR-1998:
XX
                      98WO-US08716.
\mathbb{P}\mathbf{P}
     30-APR-1998;
XX
      (HARD ) HARVARD COLLEGE.
A
XX
                             Takada S;
PI.
     McMahon AP,
                   Lee SK,
ХX
     WPI; 2000-062145/05.
ĽR
     N-PSDB; AAZ47788.
DR
XX
     Enriched populations of mammalian neural precursor cells, for treating
PT
PТ
     Parkinson's disease
XX
     Claim 6; Page 4; 57pp; English.
PS
XX
     The present invention describes an enriched population of mammalian
CC
     neural precursor cells committed to a cell fate, the cells being
CC
      characterised in that they exhibit a stem cell phenotype in the presence
CC
      of a Wnt polypeptide but not in the absence of the Wnt polypeptide.
CC
      The enriched population of dopaminergic neuron precursor cells can be
CC
      used in a method for treating Parkinson's disease. The enriched
CC
      population of dorsal neural precursor cells can be used to induce
CC
      neuronal regeneration in an adult mammal suffering from a
CC
```

neurodegenerative disorder. The disorder that can be treated is

Parkinson's disease, Amyotrophic lateral sclerosis, diffuse Lewy body

disease, cortical-basal ganglionic degeneration, Hallervorden-Spatz

disease or myoclonic epilepsy. The present sequence represents the

CC

CC

CC

CC

CC XX human Wnt-1 protein.

```
SQ Sequence 370 AA;
```

```
100.0%;
                            Score 2036; DB 21; Length 370;
 Query Match
                     100.0%;
                            Pred. No. 5.2e-195;
 Best Local Similarity
 Matches 370; Conservative
                           0;
                              Mismatches
                                          0;
                                             Indels
                                                        Gaps
                                                               0;
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qy
           1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Db
         61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Qу
           61 LOLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
        121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Çу
           121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Db
        181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Qy.
           181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFŞEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
D٥
        241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
(37
           ָכ!כו
        241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLKLEPEDPAHKPPSPHDLVYFEKSPNFCT.300;
QY:
        302 MSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
           ŨЪ
           YSGRIGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC
        361 THTRVLHECL 370
\mathcal{Q}Y
           11111111
           THTRVLHECL 370
Db
RESULT 4
AAE34038
Œ
    AAE34038 standard; Protein; 370 AA.
XX
AC
    PAE34038;
XX
DT
    02-MAY-2003 (first entry)
XX
DE
    WNT-1 protein.
XX
    Prug screening; toxicology assay; signalling pathway; WNT-1 protein.
KW
XX
    Unidentified.
OS
XX
    WC200290992-A2.
FN
XX
PD
    14-NOV-2002.
XX
PF
    29-APR-2002; 2002WO-GB01946.
XX
PR
    04-MAY-2001; 2001GB-0011004.
XX
```

```
(AXOR-) AXORDIA LTD.
PA
XX
PΙ
    Andrews P, Draper J,
                         Walsh J;
XX
DR
    WPI: 2003-120579/11.
    N-PSDB; AAD52537.
DR
XX
PT
    Identifying biologically active agents comprises cloning transfected
    cells into a cell array, exposing the array to an agent to be tested,
PT
    and detecting signals generated by a reporter molecule as a result of
PT
РΤ
    exposure to the agent
XX
    Claim 16; Fig 25; 90pp; English.
PS
XX
    The present invention relates to a novel screening method which enables
CC
    the identification of biologically active agents which mediate their
CC
    effect through the activation of genes. The method involves providing a
CC
CC
    population of cells stably transfected with a nucleic acid encoding a
CC
    reporter molecule, cloning the transfected cells into a cell array,
    exposing the array to at least one agent to be tested and detecting a
CC
    signal generated by the reporter molecule as a result of exposure to
C'C
    the agent. The method is useful in identifying biologically active agents
CC
CC
    and the genes through which the agents act, in screening potential drugs
    for their ability to activate certain drug targets in a high-throughput
CC
    assay, in identifying relationships between signalling pathways and
CC.
OC.
    specific signals that could be useful in eventually directing the
.
    differentiation of embryonic stem cells and in toxicology assays by
    testing for unwanted activation or inhibition of specific signalling
CC
    pathways. The present sequence is WNT-1 protein used to illustrate the
CC
CC
    method of the invention.
XX
SQ.
    Sequence 370 AA;
 Query Match
                       100.0%; Score 2036; DB 24;
                                                  Length 370;
                       100.0%; Pred. No. 5.2e-195;
 Best Bocal Similarity
 Matchez 370; Conservative
                             0; Mismatches
                                              0;
                                                 Indels
           L MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Ωу
            Db
           1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
          61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
QV
            Db
          61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
         121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Qу
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Db
         181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
QУ
            131 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Dh
         241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Qy-
            241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
```

Db

```
301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNC 360
Qy
              301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Db
          361 THTRVLHECL 370
Qy
              Db
          361 THTRVLHECL 370
RESULT 5
ABU55882
     ABU55882 standard; Protein; 370 AA.
ХX
AC
     ABU55832;
ХX
TG
     25-MAR-2003
                  (first entry)
XX
DE
     Human WNT-1 protein.
XX
     Notch; Wnt; embryonic stem cell; embryogenesis; human;
KM.
Wi
     differentiation; ligand; Parkinson's disease; Huntington's disease;
     motor neuron disease; heart disease; diabetes; liver disease;
KW
     cirrhosis; renal disease; AIDS; acquired immunodeficiency syndrome.
KW
XX
QS:
     Homo sapiens.
XX
₽N
     WO200277204-A2.
XX.
ÞΝ
     03-OCT-2002.
XX
छ प्र
     25-MAR-2002; 2002WO-GB01195.
XX
     23-MAR-2001; 2001GR-0007296.
PR.
     23-MAR-2001; 2001GB-0007299.
₽R
     17-APR-2001; 2001GB-0009346.
ХX
PA
     (AXOR-) AXORDIA LTD.
XX
PΥ
     Andrews P, Walsh J,
                          Gokhale P;
XX
     WPI; 2003-092852/08.
ÐR
     N-PSDB; ABX75310.
DR
XX
PT-
     Modulating the differentiation of embryonic stem cells by providing
PT
     ligands which bind receptors in the Notch and Wnt pathways, useful for
     treating diseases such as Parkinson's, Huntington's, heart disease,
PT
PT
     diabetes and AIDS
XX
PS
     Disclosure; Fig 31; 121pp; English.
XX
     The invention relates to modulating the differentiation of an embryonic
CC
     stem cell, comprising: (a) providing a culture of embryonic stem cells;
CC
     (b) providing at least one ligand or its active binding fragment,
CC.
CC
     capable of binding its cognate receptor polypeptide expressed by the
     embryonic stem cell; (c) forming a culture comprising embryonic stem
CC
     cells and the ligand; and (d) growing the cell culture. Also included
CC
     are: (1) Modulating the differentiation of embryonic stem cells,
CC
```

```
comprising: (a) providing a cell transfected with a nucleic acid molecule
    selected from: (i) any of 9 fully defined Wnt nucleic acid sequences;
    (ii) a nucleic acid molecule that hybridises to the nucleic acid in
    (i), and which encodes a ligand capable of modulating embryonic stem
    cell differentiation, or capable of binding a Wnt receptor; or
    (iii) nucleic acid molecules which are degenerate as a result of the
    genetic code to the sequences of (i) or (ii); (b) forming a culture
    comprising the cell identified in (a) with an embryonic stem cell; and
    (c) growing the culture for the maintenance and/or differentiation of
    the embryonic stem cell; (2) Inhibiting the differentiation of embryonic
    stem cells, comprising: (a) providing at least one polypeptide or its
    active fragment, that are inhibitors of the Wnt signalling pathway;
    (b) forming a culture comprising the cell identified in (a) with an
    embryonic stem cell; and (c) growing the culture for the maintenance of
    embryonic stem cells in an undifferentiated state; or (3) Inhibiting the
    differentiation of embryonic stem cells, comprising: (a) providing a cell
    transfected with a nucleic acid molecule selected from: (i) a molecule
    encoding a Wnt inhibitory polypeptide; (ii) a molecule which hybridises
    to the molecule of (i) and encodes a polypeptide capable of inhibiting
    Wnt signalling; and (ili) nucleic acid molecules which are degenerate as
    a result of the genetic code to the sequences of (i) or (ii); (b) forming
    a culture comprising the cell identified in (a) with an embryonic stem
    cell; and (c) growing the culture for the maintenance of embryonic stem
    cells in an undifferentiated state; and (4) A cell, therapeutic cell or
    cell culture obtainable by any of the methods cited above.
    The therapeutic cell of the present invention is useful in the
    treatment of an animal, preferably a human, comprising administering a
    cell composition comprising embryonic stem cells which have been
    induced to differentiate into at least one cell-type. The cell is also
    useful for the manufacture of a composition for use in treatment of
    diseases such as Parkinson's disease, Huntington's disease, motor
    neuron disease, heart disease, diabetes, liver disease (e.g.
    cirrhosis), renal disease and AIDS (acquired immunodeficiency syndrome).
    The present sequence is represents a Wnt or Notch pathway protein
     (i.e. a ligand for the method of the invention).
XX.
```

370 AA; Sequence

CC

CC

CC

CC

CC

CC

CC

ĊC

CC

CC

CC

CC

CC

 $\mathbb{C}\mathbb{C}$ 

CC

CC

CC

CC

ĊC

CC

CC

CC.

CC.

ĊC

377

**C**.::

00

CC

CC

CC

CC

50

T'C

SO

```
100.0%; Score 2036; DB 24;
                                          Length 370;
 Query Match
                   100.0%; Pred. No. 5.2e-195;
 Best Local Similarity
                        0; Mismatches
                                         Indels
 Matches
       370: Conservative
         1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Qy.
          MGLWALLPGWVSATLILALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Db
        61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Qγ
          61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
       121 CRETAFIFAITSAGVTHSVAPSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Q_{Y}
          121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Dh
       181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
QУ
          181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
Db
```

```
241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Qy
              241 AVGDVLRDRFDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300
Db
          301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Qy
              301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Ob
          361 THTRVLHECL 370
Qу
              1111111111
          361 THTRVLHECL 370
Db
RESULT 6
AAB19785
     AAB19786 standard; Protein; 370 AA.
ΪD
XX.
AC.
     AAB19785;
XX
     19-FEB-2001
                  (first entry)
IJΤ
XX
     Human Wnt-T protein involved in kidney tubulogenesis.
DE
XX
     Wnt-1: human; kidney; tubulogenesis; chronic renal failure;
ΚW
W
     renal cell carcinoma; polycystic kidney disease;
     chronic obstructive uropathy; virus induced nephropathy;
E_{i} \in \mathcal{E}_{i}
                                                                  .);
     Homo sapiens.
3%
100
     WO200061630-A1.
1.1.
     19-OCT-2000.
PD
XX
РF
                    99WO-US07745.
     08-APR-1999;
XX
                    99WO-US07745.
FR.
     08-APR-1999;
XX
\mathbb{Z}/\mathbb{A}
     (HARD ) HARVARD COLLEGE.
XX
     McMahon AP, Kispert A.
                             Vainio S;
PI
XX
     WPI; 2000-679466/66.
DR
DR.
     N-PSDB; AAA88884.
XX
     Inducing kidney tubule formation in a post-natal mammal, involves
PТ
     administering a substantially pure Wnt polypeptide or its agonist
PT
XX
     Claim 18; Page 7-8; 53pp; English.
PS
XX
     The present sequence is that of human Wnt-1, a protein that acts as
CC
     a trigger to start an intrinsic program in mesenchymal cells which
CC
     leads to the formation of complex nephron-like structures. Kidney
CC
     tubule formation in a post-natal mammal is stimulated by
CC
     administering a Wnt polypeptide or a nucleic acid encoding it.
CC
     Wnt polypeptide is selected from Wnt-4 or a Wnt-1 class protein
CC
```

```
Wnt-1 class polypeptide is a Wnt polypeptide that transforms C57MG
CC
CC
    cells in culture. The method is preventative or therapeutic and is
    administered to a juvenile or adult mammal (including humans) for
CC
    the treatment of kidney disorders including chronic renal failure,
CC
CC
    renal cell carcinoma, polycystic kidney disease, chronic obstructive
CC
    uropathy, and virus, especially HIV-1, induced nephropathy (claimed).
ХX
             370 AA;
SQ
    Sequence
                             Score 2026; DB 21;
 Query Match
                      99.5%:
 Best Local Similarity
                      99.78;
                             Pred. No. 5.2e-194;
 Matches 369; Conservative
                                Mismatches
                                                           Gaps
                                                                  0:
                                               Indels
          1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Сý
            1 MGLWALLPGWVSATLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPS 60
Db
         61 LOLLSRKORRLIRONPGILHSVSGGLOSAVRECKWOFRNRRWNCPTAPGPHLFGKIVNRG 120
Qу
            61 LQLLSRKQRRLIRQNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRG 120
Db
        121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
Qу
            121 CRETAFIFAITSAGVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLF 180
\mathbb{D}_{\mathbb{R}}
        131 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLR 240
CY
            181 GREFVDSGEKGRDLRFLMNLHNNEAGRTTVPSEMROECKCHGMSGSCTVRTCWMRLPTLR 240
J);;
        241 AVGDVLRDRFDGASRVI,YGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 30,0
Úÿ
            ÐЬ
        241 AVGDVLRDRTDGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCT 300:
        201 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Q_{Y}
            301 YSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNC 360
Db
        361 THTRVLHECL 370
Qу
            111111111
        361 THTRVLHECL 370
Db
RESULT 7
    ABB61007 standard; Protein; 468 AA.
ID
XX
P.C
    ABB61007;
XX
DT
    26-MAR-2002 (first entry)
XX
    Drosophila melanogaster polypeptide SEQ ID NO 9813.
DΕ
XX
KW
    Drosophila; developmental biology; cell signalling; insecticide;
KW.
    pharmaceutical.
XX
    Drosophila melanogaster.
OS
```

such as Wnt-1, Wnt-2, Wnt-3a, Wnt-7a and Wnt-7b (see AAB19786-90).

```
XX
PN
    WO200171042-A2.
XX
PD
    27-SEP-2001.
XX .
    23-MAR-2001; 2001WO-US09231.
PF
XX
₽R
    23-MAR-2000; 2000US-191637P.
PR
    11-JUL-2000; 2000US-0614150.
ХX
    (PEKE ) PE CORP NY.
PΑ
XX
    Venter JC, Adams M, Li PWD, Myers EW;
PI
XX
    WPI: 2001-656860/75.
DR
    N-PSDB; ABL05110.
L:B
XX
    New isolated nucleic acid detection reagent for detecting 1000 or more
РΤ
    genes from Drosophila and for elucidating cell signalling and cell-cell
PT
PΤ
    interactions -
XX
PS
    Disclosure; SEQ ID NO 9813; 21pp + Sequence Listing; English.
NA.
    The invention relates to an isolated nucleic acid detection reagent
CC
    capable of detecting 1000 or more genes from Drosophila. The invention is
Cil
    useful in developmental biology and in elucidating cell signalling and
CC
GC.
    cell-cell interactions in higher eukaryotes for the development of
    insecticides, therapeutics and pharmaceutical drugs. The invention
.ċď
    discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA
cre
    sequences (ABL01840-ABL16175) and the encoded proteins
Ø.C
SC
    (ABB57737-ABB72072).
    The sequence data for this patent did not form part of the printed
CC
    specification, but was obtained in electronic format directly from WIPO
CC
Q_{ij}^{(i)}
    at fcp.wipo.int/pub/published pct sequences.
XX
50
    Sequence 469 AA;
 Query Match
                       50.2%; Score 1022.5; DB 22; Length 468;
 Best Local Similarity
                       45.7%; Pred. No. 2.1e-93;
                                 Mismatches
 Matches 203; Conservative
                             43;
                                            89; Indels 109;
          31 SGR-----WWGIVNVASSTNLLTDSKSLOLVLEPSL-OLLSRKORRLIRONPGILHSVSG 84
                   1:
          30 SGRGRGSMWWGIAKVGEPNNI-----TPIMYMDPAIHSTLRRKQRRLVRDNPGVLGALVK 84
Db
          85 GLOSAVRECKWOFRNRRWNCPT---APGPHLFGKIVNRGCRETAFIFAITSAGVTHSVAR 141
QУ
                85 GANLAISECOHOFRNRRWNCSTRNFSRGKNLFGKIVDRGCRETSFIYAITSAAVTHSIAR 144
Dh
         142 SCSEGSIESCTCDY--RRRGP------GGPDWHWGGCSDNIDFGRLFGREFVDSGE 189
QУ
            Db
         145 ACSEGTIESCTCDYSHOSRSPOANHOAGSVAGVRDWEWGGCSDNIGFGFKFSREFVDTGE 204
         190 KGRDLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDR 249
Qу
             205 RGRNLREKMNLHNNEAGRAHVQAEMRQECKCHGMSGSCTVKTCWMRLANFRVIGDNLKAR 264
Db
```

```
Qу
                                      ---RGSNRASRAELL-----
              1-1-1:1:
                                          +111
                                                  1:
          265 FDGATRVQV'INSLRATNALAPVSPNAAGSNSVGSNGLIIPQSGLVYGEEEERMLNDHMPD 324
Db
                                                              RLEPEDPAHKPPSP 286
Qу
                                                              : 1 : 1 111
Db
          325 ILLENSHPISKIHHPNMPSPNSLPQAGQRGGRNGRRQGRKHNRYHFQLNPHNPEHKPPGS 384
          287 HDLVYFEKSPNFCTYSGRLGTAGTAGRACNSSSPALDGCELLCCGRGHRTRTORVTERCN 346
ŌУ
                1111 1 11:11 : 1 1 11 11 11 :1 :111 11:1
Db
          385 KDLVYLEPSPSFCEKNLRQGILGTHGRQCNETSLGVDGCGLMCCGRGYRRDEVVVVERCA 444
          347 CTFHWCCHVSCRNCTHTRVLHECL 370-
Ωу
              11111 1 1: 1 ::1:: 11
          445 CTFHWCCEVKCKLCRTKKVIYTCL 468
Db
RESULT 8
AAY57596
ID
     AAY57396 standard; Protein; 352 AA.
XX
AC
     AAY57596:
XX
ĐĖ.
     02-MAR-2000
                   (first entry)
7.4
T.M.
     Murine Wht-3a protein.
. Alber
KVá
     Wnt-1; neuronal growth; differentiation; regeneration;
     dorsal meural progenitor cell; neurodegenerative disease;
XW
     Parkinson's disease; amyotrophic lateral sclerosis;
KW
     diffuse Lewy body disease; cortical-basal ganglionic degeneration;
ΚW
5W
     Hallervorden-Spatz disease; myoclonic epilepsy.
5.74
ಿತ
     Mus sp.
XX
PN.
     WO9957248-A1.
XX
PD
     11-NOV-1999.
XX
ÞΕ
     30-APR-1998;
                    98WO-US08716.
XY
\mathbb{R}
     30-APR-1998:
                    98WO-US08716.
XZ
PA
     (HARD ) HARVARD COLLEGE.
XX
PΙ
     McMahon AP, Lee SK, Takada S;
XX
DR
     WPI; 2000-062145/05.
DR
     N-PSDB; AAZ47790.
XX
D_{L}
     Enriched populations of mammalian neural precursor cells, for treating
PΤ
     Parkinson's disease -
XX
PS
     Claim 12; Page 5; 57pp; English.
XX
     The present invention describes an enriched population of mammalian
CC
CC
     neural precursor cells committed to a cell fate, the cells being
```

```
characterised in that they exhibit a stem cell phenotype in the presence
CC
    of a Wnt polypeptide but not in the absence of the Wnt polypeptide.
CC
    The enriched population of dopaminergic neuron precursor cells can be
CC
    used in a method for treating Parkinson's disease. The enriched
CC
    population of dorsal neural precursor cells can be used to induce
CC
    neuronal regeneration in an adult mammal suffering from a
CC
    neurodegenerative disorder. The disorder that can be treated is
CC
    Parkinson's disease, Amyotrophic lateral sclerosis, diffuse Lewy body
CC
    disease, cortical-basal ganglionic degeneration, Hallervorden-Spatz
CC
    disease or myoclonic epilepsy. The present sequence represents the
CC
    murine Wnt-3a protein.
CC
XX
SO
    Sequence
              352 AA;
                              Score 843.5; DB 21; Length 352;
 Query Match
                       41.4%;
                       45.4%; Pred. No. 1.2e-75;
 Best Local Similarity
                            53; Mismatches 130; Indels
                                                                      4;
 Matches 161; Conservative
          16 LLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQN 75
Qy.
                                            11:
                                      :::
           7 LLVLCSLKQAL--GSYPIWWSLAVGPQYSSL----STQPILCASIPGLVPKQLRFCRNY 59
Db
          76 PGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAG 134
Qу
              : [ ] : : : : : | | : | | : | | | | | | |
          50 VEIMPSVAEGVKAGIQECQHQFRGRRWNCTTVSNSLAIFGPVLDKATRESAFVHAIASAG 119
Db
         135 VTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDL 194
QУ
            120 VAFAVTRSCAEGSAAICGCSSRLQGSPGEGWKWGGCSEDIEFGGMVSREFADARENRPDA 179
Db
         195 RFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGAS 254
Qy.
               130 RSAMNRHNNEAGRQAIASHMHLKCKCHGLSGSCEVKTCWWSQPDFRTIGDFLKDKYDSAS 239
Db
         255 RVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGTAGRA 314
QУ
                                     ::
                     240 EMVV---EKHRESRGWVETLRPRYTYFKVPTERDLVYYEASPNFCEPNPETGSFGTRDRT 296
Db
         315 CNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
             297 CNVSSHGIDGCDLLCCGRGHNARTERRREKCHCVFHWCCYVSCQECTRVYDVHTC 351
Db
RESULT 9
    AAW30618 standard; Protein; 355 AA.
TD
XX
AC
    AAW30618;
ХX
    06-APR-1999
                (first entry)
DI
XX
    Human Wnt-3 protein.
DE
XX
    Human; Wnt-3; oncogene; cancer; neurological disorder; bipolar disorder;
KW
    Parkinson's disease; frontotemporal dementia; schizophrenia;
KW
    developmental disorder; tricho-dento-osseous; Meckel syndrome.
K.N.
XΧ
```

```
Homo sapiens.
OS
XX
PN
     EP887408-A1.
XX
     30-DEC-1998.
DD
XX
                    98EP-0303989.
PF
     20-MAY-1998;
XX
DΒ
     06-MAR-1998;
                    98GB-0004921.
     23-MAY-1997;
                    97GB-0010716.
PR
XX
     (SMIK') SMITHKLINE BEECHAM PLC.
PΑ
XX
PΙ
     Barnes MR,
                 Testa TT;
XΧ
DR
     WPI; 1999-047875/05.
     N-PSDB; AAX03794.
DR
XX
     New oncogene Wnt-8 polypeptides and polynucleotides - useful as
PT
     diagnostic reagents and for prevention and treatment of cancer and
PT
     neurological and developmental disorders
PT
\mathbb{X}\mathbb{X}
     Claim 1; Page 16-17; 22pp; English.
4:S -
Хχ.
     The present sequence represents human oncogene Wnt-3. Wnt-3 proteins and
SC
     polynucleotides are useful for diagnosing diseases related to over or
ĆŒ
     underexpression of Wnt-3 protein by identifying mutations in the Wnt-3
ÇC
     gene, and/or analysing for the presence or amount of expressed protein.
CĈ.
     Wnt-3 proteins can be used to screen for agonists and antagonists by
CC
     measuring the binding to Wnt-3 protein, and observing stimulation or
CC
     inhibition of the protein function. These can be used in treatment to
CC
     activate (agonist) or inhibit (antagonist) Wnt-3 activity, in addition
CC
     to direct administration of antisense sequences, or soluble Wnt-3 protein
CC
     which binds the ligand to prevent expression, or Wnt-3 polynucleotides to
CC
     treat conditions associated with a lack of Wnt-3 protein. Gene therapy
CC
     may also be used to affect endogenous Wnt-3 proteins, using Wnt-3
CC
     polynucleotides and retroviral vectors. Wnt-3 antibodies are useful for
CC
     inducing an immune response to immunise and prevent diseases, and for
CC
     isolating Wnt-3 clones or purifying the protein by affinity
CC
     chromatography. Wnt-3 proteins can be administered directly or as a
CC
     vaccine to inoculate against disease. Diseases diagnosed, prevented or
CC
     treated include: cancer, particularly prostate and breast cancer;
CC
     neurological disorders including frontotemporal dementia, Parkinson's
CC
     disease, bipolar disorder, schizophrenia; developmental disorders
CC
     including tricho-dento-osseous and Meckel syndrome. The Wnt-3 protein is
CC
     also useful for mapping the gene to a chromosome, allowing gene
CC
     inheritance to be studied through linkage analysis.
CC
XX
SO
     Sequence
                355 AA;
                                   Score 840.5; DB 20; Length 355;
                           41.3%;
  Query Match
  Best Local Similarity 46.0%; Pred. No. 2.4e-75;
                               52; Mismatches 121; Indels
                                                                               3;
  Matches 155; Conservative
           34 WWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIRQNPGILHSVSGGLQSAVREC 93
Qy
                                                           1: ||: |:: ::||
                                   1:1
           26 WWSLALGQQYTSL----GSQPLLCGSIPGLVPKQLRFCRNYIEIMPSVAEGVKLGIQEC 80
Db
```

```
94 KWQFRNRRWNCPTAPGP-HLFGKIVNRGCRETAFIFAITSAGVTHSVARSCSEGSIESCI 152
QУ
                               :|| :::: ||:||: || ||||:||:
          81 QHQFRGRRWNCTTIDDSLAIFGPVLDKATRESAFVHAIASAGVAFAVTRSCAEGTSTICG 140
Db
         153 CDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGRDLRFLMNLHNNEAGRTTVFS 212
QУ
                  141 CDSHHKGPPGEGWKWGGCSEDADFGVLVSREFADARENRPDARSAMNKHNNEAGRTTILD 200
Db
         213 EMROECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRFDGASRVLYGNRGSNRASRAELL 272
Qу
                                   :|||:
                :|||||||||||
         201 HMHLKCKCHGLSGSCEVKTCWWAQPDFRAIGDFLKDKYDSASEMVV---EKHRESRGWVE 257
Db
         273 RLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGRACNSSSPALDGCELLCCGR 332
QУ
                      | :
         258 TLRAKYSLFKPPTERDLVYYENSPNFCEPNPETGSFGTRDRTCNVTSHGIDGCDLLCCGR 317
Db
         333 GHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
             318 GHNTRTEKRKEKCHCIFHWCCYVSCQECIRIYDVHTC 354
Db
RESULT 10
AAY41719
     AAY41719 standard; Protein; 351 AA.
T.D
X.
M_{\rm c}^{\rm op}
     AAY11719;
XX
     07-DEC-1999 (first entry)
DE
XX
     Human PRO864 protein sequence.
ΰŒ
XX
     Human; PRO; EST; expressed sequence tag; PCR primer; hybridisation;
KW
     probe; blood coagulation disorder; cancer; cellular adhesion disorder;
XW.
     secreted protein; transmembrane protein.
KW.
XX
     Homo sapiens.
OS
XX
ЪИ
     WO9946281-A2.
XX
     16-SEP-1999.
PD
XX
                   99WO-US05028.
DP
     08-MAR-1999;
\Sigma X
DŘ
     10 MAR-1998;
                   98US-0077450.
     11-MAR-1998;
                   98US-0077632.
PΡ
                   98US-0077641.
\mathbb{P}\mathsf{R}
     11-MAR-1998;
PR
     11-MAR-1998;
                   98US-0077649.
PR
     12-MAR-1998;
                   98US-0077791.
                   98US-0078004.
PR
     13-MAR-1998;
                   98US-0040220.
PR
     17-MAR-1998;
                   98US-0078886.
₽R
     20-MAR-1998;
     20-MAR-1998;
                   98US-0078910.
ΣR
                   98US-0078936.
PR
     20-MAR-1998;
     20-MAR-1998;
                   98US-0078939.
PR
                   98US-0079294.
     25-MAR-1998;
PR
                   98US-0079656.
     26-MAR-1998;
PR
```

```
PR
     27-MAR-1998;
                      98US-0079663.
                      98US-0079664.
PR
     27-MAR-1998;
                      98US-0079689.
     27-MAR-1998;
PR
                      98US-0079728.
     27-MAR-1998;
PR
                      98US-0079786.
     27-MAR-1998;
PR
     30-MAR-1998;
                      98US-0079920.
PR
                      98US-0079923.
     30-MAR-1998;
PR
                      98US-0080105.
PR
     31-MAR-1998;
PR
     31-MAR-1998;
                      98US-0080107.
                      98US-0080165.
PR
     31-MAR-1998;
                      98US-0080194.
PR
     31-MAR-1998;
                      98US-0080327.
PR
     01-APR-1998;
     01-APR-1998;
                      98US-0080328.
₽R
     01-APR-1998;
                      98US-0080333.
PR
                      98US-0080334.
₽R
     01-APR-1998;
                      98US-0081049.
PR
     08-APR-1998;
                      98US-0081070.
     08-APR-1998;
PR
                      98US-0081071.
PR
     08-APR-1998;
      09-APR-1998;
                      98US-0081195.
PR
                      98US-0081203.
      09-APR-1998;
PR
                      98US-0081229.
₽R
      09-APR-1998;
                      98US-0081817.
      15-APR-1998;
PR
                      98US-0081838.
PR
      15-APR-1998;
                      98US-0081952.
      15-APR-1998;
PR
                      98U3-0081955.
      15-AFR-1998;
PR
                      98US-0082568.
PR
      21-APR-1998;
                      98US-0082569.
      21-APR-1998;
₽R∙
                      98US-0082700.
      22-APR-1998;
ĎŖ
                      98US-0082704.
      22-APR-1998;
PR
                      98US-0082804.
₽R-
      22-APR-1998;
                      98US-0082767.
      23-APR-1998;
₽R
                      98US-0082796.
      23-APR-1998;
PR
                      98US-0083336.
      27-APR-1998;
PR
                      98US-0083322.
      28 APR-1998;
\circR
                      98US-0083392.
₽R
      29-APR-1998;
      29-APR-1998;
                      98US-0083495.
PR
PR
      29-APR-1998;
                      98US-0083496.
                      98US-0083499.
      29-APR-1998;
PR
                      98US-0083500.
      29-APR-1998;
PR
                      98US-0083545.
      29-APR-1998;
₽R
                      98US-0083554.
PR
      29-APR-1998;
                       98US-0083558.
PR
      29-APR-1998;
                       98US-0083559.
      29-APR-1998;
PR
                       98US-0083742.
PR
      30-APR-1998;
                       98US-0084366.
PR
      05-MAY-1998;
                       98US-0084414.
PR
      06-MAY-1998;
                       98US-0084441.
      06-MAY-1998;
PR
                       98US-0084598.
PR
      07-MAY-1998;
                       98US-0084600.
PR
      07-MAY-1998;
                       98US-0084627.
PR
      07-MAY-1998;
                       98US-0084637.
      07-MAY-1998;
PR
                       98US-0084639.
      07-MAY-1998;
PR
                       98US-0084640.
PR
      07-MAY-1998;
                       98US-0084643.
      07-MAY-1998;
PR
PR
      13-MAY-1998;
                       98US-0085323.
                       98US-0085338.
PR
      13-MAY-1998;
      13-MAY-1998;
                       98US-0085339.
 PR-
```

```
PR
     15-MAY-1998:
                    98US-0085579.
PR
     15-MAY-1998;
                    98US-0085580.
PR
     15-MAY-1998;
                    98US-0085582.
PR
     15-MAY-1998;
                    98US-0085689.
PR
     15-MAY-1998;
                    98US-0085697.
                    98US-0085700.
PR
     15-MAY-1998;
PP
     15-MAY-1998;
                    98US-0085704.
PR
     18-MAY-1998:
                    98US-0086023.
     22-MAY-1998;
                    98US-0086392.
PR
PR
     22-MAY-1998;
                    98US-0086414.
PR
     22-MAY-1998;
                    98US-0086430.
                    98US-0086486.
PR
     22-MAY-1998;
                    98US-0087098.
PR
     28-MAY-1998;
PR
     28-MAY-1998;
                    98US-0087106.
                    98US-0087208.
PR
     28-MAY-1998;
     30-JUL-1998;
                    98US-0094651.
PR
                    98US-0100038.
     11-SEP-1998;
PR
ХX
     (GETH ) GENENTECH INC.
PA
ХX
PI
     Wood WI, Goddard A,
                          Gurney A,
                                      Yuan J,
                                                Baker KP,
XX
     WPI; 1999-551358/46.
DR
DR
     M-PSDB; AAZ34081.
\lambda \lambda
     Mew secreted and transmembrane polypeptides and their polynucleotides,
1.7
بقائل
     useful for treating blood coaquiation disorders, cancers and cellular
\mathbb{R}^{n}P
     adhesion disorders -
XX
PS
     Claim 12: Fig 83; 530pp; English.
XX
ĈС
     The present invention describes secreted and transmembrane polypeptides
CC
     and their polynucleotides. The nucleotide sequences are useful as
CC.
     sources of probes, primers, for chromosome mapping, and for generation
CC
     of antisense sequences. They can also be used to create transgenic
CC
     animals. The proteins can be used to treat a variety of diseases and
CC
     disorders, depending on their function. Diseases that may be treated
CC
     include blood coagulation disorders, cancers and cellular adhesion
     disorders. They may also be used to raise antibodies. AAZ33891 to
CC.
CC
     AAZ34338, and AAY41685 to AAY41774 represent polynucleotide and
     polypeptide sequence given in the exemplification of the present
CC
CC
     invention.
XX
SO
     Sequence
                351 AA;
                          41.3%;
                                 Score 840; DB 20; Length 351;
  Query Match
                          44.8%; Pred. No. 2.6e-75;
  Best Local Similarity
                                55; Mismatches 123; Indels
                                                                 20;
Matches 161; Conservative
           14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Ωy
              : | | : |: : | |: |
                                   1 : 11
                                               ::: :: :
                                                             1: 1 ::1 :: :
            9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Db
           74 ONPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qy.
              :|||:||:||
           59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
Db
```

PR

15-MAY-1998;

98US-0085573.

```
134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
QУ
             119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
         193 --DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qγ
                 Db
         179 ASSSRALMNI.HNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Qу
                       |\cdot|\cdot|
                                  Db
         239 DGATEVEPRRVGSSRA~----LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
         311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
ÇУ
              292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
106
RESULT 11
AAB44275
    AAB44275 standard; Protein; 351 AA.
XX
AC
    AAB44275;
\mathbf{X}\mathbf{X}
'n'n
    08 FEB-2001 (first entry)
Χ.4
Human FR0864 (UNQ426) protein sequence SEQ ID NO:226
ijХ.;
KW.
    Human; Recreted protein; transmembrane protein; PRO; EST; cytostatic;
    expressed sequence tag; detection; cancer.
131
XX
ÖŚ
    Home sapiens.
XX
. N
    W0200053756-A2.
2%
    14-SEP-2000.
PD
XX
    18-FEB-2000; 2000WO-US04341.
\mathcal{P}F
. X
                   99WO-US05028.
PR
    08-MAR-1999;
PR
    12-MAR-1999;
                   99US-0123957.
ΘR
    29-MAR-1999;
                   99US-0126773.
32
    21-APR-1999;
                   99US-0130232.
                  99US-0131445.
PR
    28-AFR-1999;
PR
    74-MAY-1999;
                   99US-0134287.
PR
    22-JUN-1999;
                   99US-0141037.
    26-JUL-1999;
                   99US-0145698.
₽R
PR
    29-OCT-1999;
                   99US-0162506.
    30-NOV-1999;
                   99WO-US28313.
PR
    02-DEC-1999;
                   99WO-US28551.
PR
\overline{p}
    02-DEC-1999;
                   99WO-US28565.
    16-DEC-1999;
                   99WO-US30095.
PR
    30-DEC-1999;
                   99WO-US31243.
PR
PR
    30-DEC-1999;
                   99WO-US31274.
    05-JAN-2000; 2000WO-US00219.
PR
    06-JAN-2000; 2000WO-US00277.
PR
```

06-JAN-2000; 2000WO-US00376.

PR

```
XX
    (GETH ) GENENTECH INC.
PΑ
XX
    Ashkenazi AJ, Baker KP, Botstein D, Desnoyers L, Eaton DL;
ΡÌ
PΙ
    Ferrara N. Filvaroff E. Fong S. Gao W. Gerber H. Gerritsen ME;
                           Grimaldi CJ, Gurney AL, Hillan KJ;
    Goddard A, Godowski PJ,
PΤ
    Kljavin IJ, Kuo SS, Napier MA, Pan J, Paoni NF, Roy MA;
PΤ
    Shelton DL, Stewart TA, Tumas D, Williams PM, Wood WI;
PΙ
XX
DR
    WPI: 2000-611443/58.
    N-PSDB; AAC78505.
DR
XX
    Novel PRO polypeptides and polynucleotides used in detection methods,
PT
    to target bioactive molecules to specific cells, and to modulate
PT
    cellular activities -
PT
XX
    Claim 12; Fig 83; 636pp; English.
PS
XX
    AAC78458 to AAC78599 represent polynucleotide and EST (expressed
CC
CC
    sequence tag) sequences which encode secreted or transmembrane PRO
    polypeptides. The PRO polynucleotides and polypeptides have cytostatic
CC
    activity. The polynucleotides and polypeptides can be used for detecting
CC
CC
    the presence of PRO polypeptides in samples, for linking bioactive
    molecules to cells and for modulating biological activities of cells,
CC.
CC
    using the polypeptides for specific targeting. The polypeptide targeting
Cd
    can be used to kill the target cells, e.g. for the treatment of cancers.
    The polypeptide pairs provide specific targeting of bioactive molecules
CC
    to cells. AAC78600 to AAC78987 represent PCR primers and probes used in
CC
CC
    the isolation of the PRO polynucleotide sequences.
XX
SŞ
    Sequence.
              351 AA;
 Query Match
                       41.3%; Score 840; DB 21; Length 351;
 Best Local Similarity 44.8%; Pred. No. 2.6e-75;
 Matches 161; Conservative 55; Mismatches 123; Indels
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qу
            : | | : | : | | : |
                               9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE----KLKGLIQRQVQMCK 58
Db
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qy
            Dh.
         59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
QУ
            119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
         193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qу
                179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
         251 DGASRVLYGNEGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
δλ
                                239 DGATEVEPRRVGSSRA--
                              ----LVPRNAOFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
         311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Çу
```

Best Local Similarity

```
RESULT 12
AAY57270
     AAY57270 standard; Protein; 351 AA.
ID
XX
AC
     AAY57270;
XX
ידים
     06-JUN-2000
                   (first entry)
XX
     Wnt-4AF and Wnt-5c homolog polypeptide #1.
DE
XX
     Wnt; Wnt-4AF; Wnt-5C; frizzled gene; membrane protein; diagnostic;
KW
     therapeutic; human.
KW
XX
OS
     Homo sapiens.
XX
ΡN
     WO200012117-A1.
XX
PD
     09-MAR-2000.
XX
                     99WO-US19046.
ΡF
     20-AUG-1993;
XX.
                     98US-0098440.
\mathbb{R}^{n}
     31-AUG-1998;
     31-AUG-1998; 98US-0098453.
\mathbb{P}^{\mathbb{N}}
\mathbb{R}
     30-OCT-1988;
                     98US-0106462.
PR
     09-DEC-1998;
                     98US-0111588.
XX
      (ELIL ) LILLY & CO ELI.
PΑ
XX
PΙ
     Edmonds BT, Su W;
XX.
DR
     WPI: 2000-256491/22.
ĽR
     N-PSDB; AAZ90451.
XX
PΤ
     New gene encoding the Wnt-4AF and Wnt-5C homolog polypeptide involved
'nΨ
     in developmental control during embryonic development is useful to
\mathbf{F}, \mathbf{L}
     diagnose and treat related disease -
XX
ŀS
     Claim 9; Page 72-73; 41pp; English.
XX
     The invention provides isolated nucleic acid sequences (AAZ90451-454)
CC
CC
     encoding Wnt-4AF and Wnt-5C homolog polypeptides (AAY57270-273). The
CC
     polypeptides can be expressed by standard recombinant methodology. They
CC
     upregulate gene expression by binding to Frizzled class of membrane
CC
     proteins The Wnt antibodies can be used in diagnostics and therapeutics,
CĊ
     while chimeric and transgenic animals can provide models of disease for
     testing the effectiveness of therapeutic or diagnostic agents.
CC
XX
SQ
     Sequence
                 351 AA;
                            41.3%; Score 840; DB 21; Length 351;
  Query Match
```

44.8%; Pred. No. 2.6e-75;

Gaps.

4;

Matches 161; Conservative 55; Mismatches 123; Indels

```
14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLOLVLEPSLOLLSRKORRLIR 73
QУ
            1: 1 ::1 :: :
Db
          9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
          7 © QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133.
QΛ
          5% RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118 -
Db
Qу
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
            119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
D'n
         🚁 💯 --- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250--
CY
                1.79 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSFHDLVYFEKSPNFCTYSGRLGTAGT 310
Qу
                                111: 1
                      11:11
                                                        1 1 11
Lb
         239 DGATEVEPRRVGSSRA------LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
         311 AGRACNSSSPALDGCELLCCGRGHRTRTORVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Qу
             292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
RESULT
PAY57273
    AAY57073 standard; Protein; 351 AA.
a.C
    AAY57273:
ZW.
Tyt.
    06-JUN-2000 (first entry)
. .
    Wnt-4AF and Wnt-5c homolog polypeptide #4.
DΕ
XX
ĽW
    Wnt; Wnt-4AF; Wnt-5C; frizzled gene; membrane protein; diagnostic;
KW
    therapeutic; human.
XX
OS:
    Homo sapiens.
XX
FH
                  Location/Qualifiers
\mathbb{F}^{r}T
    Misc-difference 120
\mathbb{F}\mathbf{T}
                  /note= "encoded by G"
XX
DN.
    WO200012117-A1.
XX
Đυ
    09-MAR-2000.
XX
PF
    20-AUG-1999;
                 99WO-US19046.
AX
                 98US-0098440.
PR
    31-AUG-1998;
FR
    31-AUG-1998;
                 98US-0098453.
    30-OCT-1998;
                 98US-0106462.
₽R
PŘ
    09-DEC-1998;
                 98US-0111588.
XX
PA
    (ELIL ) LILLY & CO ELI.
XX
```

```
XX
    WPI; 2000-256491/22.
DR
    N-PSDB; AAZ90454.
DR
XX
    New gene encoding the Wnt-4AF and Wnt-5C homolog polypeptide involved
PT
    in developmental control during embryonic development is useful to
PT
    diagnose and treat related disease
PΤ
XX
    Claim 9; Page 76-77; 41pp; English.
PS
XX
    The invention provides isolated nucleic acid sequences (AAZ90451-454)
CC
    encoding Wnt-4AF and Wnt-5C homolog polypeptides (AAY57270-273). The
·CC
    polypeptides can be expressed by standard recombinant methodology. They
CC
    upregulate gene expression by binding to Frizzled class of membrane
\mathbb{C}\mathbb{C}
     proteins The Wnt antibodies can be used in diagnostics and therapeutics,
CC
     while chimeric and transgenic animals can provide models of disease for
CC
     testing the effectiveness of therapeutic or diagnostic agents.
CC
XX
               351 AA;
SO
     Sequence
                        41.3%; Score 840; DB 21;
                                                  Length 351;
  Query Match
                       44.8%; Pred. No. 2.6e-75;
  Best Local Similarity
                              55; Mismatches 123; Indels
  Matches 161; Conservative
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
ÛУ
                                                         | : | : : | : : :
                                           ::: :: :
             : | | : | : | | : |
                                 :
                                      | | |
           9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE----KLKGLIQRQVQMCK 58
Un
          74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKÍVNRGCRETAFÍFAÍTSA 133
Ç٧
             59 RNLEVMDSVRRGAQIAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118 --
Db
          134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Q7
                                          - {
          19 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
          193 --DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Ĉλ
                 179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Db/
          251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
ÔУ
                                          | | : | |
                                   | | :
                                  -LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
          239 DGATEVEPRRVGSSRA-
Dh
          311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
QУ
                                         : |||:| ||||| | | | |
              292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
RESULT 14
AAU29063
     AAU29063 standard; Protein; 351 AA.
ID
XX
AC
     AAU29063;
XX.
     18-DEC-2001 (first entry)
DΤ
```

PΙ

Edmonds BT, Su W;

```
XX
     Human PRO polypeptide sequence #40.
DE
XX
     PRO polypeptide; mammal; tumour; cancer; human; cattle; horse; sheep;
KW
     doq; cat; piq; goat; rabbit; tumour necrosis factor alpha; TNF-alpha;
KW
     blood; chondrocyte cell; cell proliferation; cell differentiation; colon;
KW
     adrenal; lung; breast; prostate; rectum; cervix; liver; genetic disorder.
KW
XX
OS
     Homo sapiens.
XX
     WO200168848-A2.
PN
XX
     20-SEP-2001.
ΡD
XX
     28-FEB-2001; 2001WO-US06520.
PF
XX
     01-MAR-2000: 2000WO-US05601.
PR
PR
     02-MAR-2000; 2000WO-US05841.
    03-MAR-2000; 2000US-187202P.
PR
     06-MAR-2000; 2000US-186968P.
ÞΒ
     14-MAR-2000; 2000US-189320P.
PR
     14-MAR-2000; 2000US-189328P.
PR
     15-MAR-2000; 2000WO-US06884.
PR
     21-MAR-2000; 2000US-190828P.
FR
PR
     21-MAR-2000; 2000US-191007P.
     21-MAR-2000; 2000US-191048P.
PR
     21-MAR-2000; 2000US-191314P.
PR
     28-MAR-2000; 2000US-192655P.
PR
PP.
     29-MAR-2000; 2000US-193032P.
     29-MAR-2000; 2000US-193053P.
PR
     30-MAR-2000; 2000WO-US08439.
PR
PR
     04-APR-2000; 2000US-194449P.
     04-APR-2000; 2000US-194647P.
3.6
     11-APR-2000; 2000US-195975P.
DX
     11-APR-2000; 2000US-196000P.
PR
PR
     11-APR-2000; 2000US-196187P.
DS.
     11-APR-2000; 2000US-196690P.
PŔ
     11-APR-2000; 2000US-196820P.
PR
     18-APR-2000; 2000US-198121P.
     18-APR-2000; 2000US-198585P.
ÞΡ
     25-APR-2000; 2000US-199397P.
PR
     25-APR-2000; 2000US-199550P.
FR
     25-APR-2000; 2000US-199654P.
\mathcal{D}\mathcal{R}
PR
     03-MAY-2000; 2000US-201516P.
     17-MAY-2000; 2000WO-US13705.
PR
     22-MAY-2000; 2000WO-US14042.
PR
     30-MAY-2000; 2000WO-US14941.
PR
     02-JUN-2000; 2000WO-US15264.
PR
     05-JUN-2000; 2000US-209832P.
PR
     28-JUL-2000; 2000WO-US20710.
PR
PR
     22-AUG-2000; 2000US-0644848.
PR
     24-AUG-2000; 2000WO-US23328.
```

08-NOV-2000; 2000WO-US30952.

01-DEC-2000; 2000WO-US32678.

20-DEC-2000; 2000WO-US34956.

(GETH ) GENENTECH INC.

PR

PR PR

XX PA

```
XX
     Baker KP, Chen J, Desnoyers L, Goddard A, Godowski PJ, Gurney AL;
PΙ
     Pan J, Smith V, Watanabe CK, Wood WI, Zhang Z;
PI
XX
DR
     WPI: 2001-602746/68.
DR
     N-PSDB; AAS45964.
XX
     Novel nucleic acids encoding PRO polypeptides, used to diagnose the
DT
     presence of tumours, such as prostate and breast tumours, in mammals and
PT
     to screen for modulators of the compounds -
PΊ
ХX
     Claim 11; Fig 80; 774pp; English.
DS
XX
     Sequences AAU29024-AAU29328 represent PRO polypeptides of the invention.
CC
     The PRO polypeptides and their associated nucleic acids can be used to
CC
     detect the presence of a tumour in a mammal by comparing the level of
CC
     expression of a PRO polypeptide in a test sample of cells from the animal
CC
     and a control sample of normal cells, whereby a higher level of
CC
     expression in the test sample indicates the presence of a tumour in the
CC
     mammal. Mammals include dogs, cats, cattle, horses, sheep, pigs, goats
CC
CC
     and rabbits but are preferably human. The polypeptides can be used to
-CC
     stimulate tumour necrosis factor (TNF) alpha release from human blood,
QC.
     when contacted with it. A specific polypeptide can be used to stimulate
     the proliferation or differentiation of chondrocyte cells. The PROPER
CC
CC
     proteins can be used to determine the presence of tumours and also
CC
     susceptibility to tumour development, particularly adrenal, lung, colon,
     breast, prostate, rectal, cervical, or liver tumours, in mammalian
CC
C
     subjects. The oligonuclectide probes specific for the PRO nucleic acids
     can be used for genetic analysis of individuals with genetic disorders.
CC
     Sequence
               351 AA;
  Query Match
                       41.3%; Score 840; DB 22; Length 351;
  Best Local Similarity 44.8%; Pred. No. 2.6e-75;
 Matches 161; Conservative 55; Mismatches 123;
                                                   Indels
          14 TLLLALAALPAALAANSSGRWWGIVNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qў
             : | | : | : | | : |
                                 | : || ::::::
                                                        | |: | ::| :: :
Dio
           9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
          74 ONPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
Qy
             Do
          S9 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR- 192
Qy.
                                  . .
                                          119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Dο
         193 -- DLRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF 250
Qy...
                 179 ASSSRALMNLHNNEAGRKAILTHMRVECKCHGVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
Ďb
         251 DGASRVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
Qy
                       11:11
                                  ]]:
                                          239 DGATEVEPRRVGSSRA-
                                  -LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
```

311 AGRACNSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369

QУ

```
RESULT 15
AAM38889
     AAM38889 standard; Protein; 351 AA.
TD
XX
AC
     AAM38889;
XX
     22-OCT-2001 (first entry)
DT
XX
     Human polypeptide SEQ ID NO 2034.
DΕ
XΧ
     Human; nootropic; immunosuppressant; cytostatic; gene therapy; cancer;
KW
     peripheral nervous system; neuropathy; central nervous system; CNS;
KW
     Alzheimer's: Parkinson's disease; Huntington's disease; haemostatic;
KW
KW
     amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic;
KW
     chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
KW
     leukaemia.
XX
OS
     Homo sapiens.
XX
PΝ
     WO200153312-A1.
XX
. PD
     26-JUL-2001.
XX
7372
     26-DEC-ROOO; 2000WC-US34263.
ψy.
PR.
     21-JAN-2000; 2000US-0488725.
     25-APR-2000; 2000US-0552317.
Cit
OR.
     09-JUL-2000; 2000US-0598042.
     19-JUL-2000; 2000US-0620312.
PR
28
     03-AUG-2000; 2000US-0653450.
PR .
     14-SEP-2000, 2000US-0662191.
PR
     19-OCT-2000; 2000US-0693036.
     29-NOV-2000; 2000US-0727344.
PR
XX.
PA
      (HYSE-) HYSEQ INC.
\Sigma X
ΡI
     Tang YT,
               Liu C,
                        Asundi V, Chen R, Ma Y, Qian XB,
                                                              Ren F,
                                                                      Wang D:
                        Wehrman T, Xu C, Xue AJ, Yang Y,
              Wang Z,
PI.
     Wang J,
                                                              Zhang J;
PΙ
               Zhou P, Goodrich R, Drmanac RT;
XX
DR
     WPI; 2001-442253/47.
     N-PSDB; AAI58045.
DR
XX
     Novel nucleic acids and polypeptides, useful for treating disorders
РΤ
PT
     such as central nervous system injuries -
XX
     Example 3; SEQ ID NO 2034; 10078pp; English.
PS
XX
     The invention relates to human nucleic acids (AAI57798-AAI61369) and
CC
CC
     the encoded polypeptides (AAM38642-AAM42213) with nootropic,
CC
     immunosuppressant and cytostatic activity. The polynucleotides are useful
     in gene therapy. A composition containing a polypeptide or polynucleotide
·CC
     of the invention may be used to treat diseases of the peripheral nervous
CC
```

```
CC
    system, such as peripheral nervous injuries, peripheral neuropathy and
    localised neuropathies and central nervous system diseases, such as
CC
    Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
CC
    lateral sclerosis, and Shy-Drager Syndrome. Other uses include the
CC
    utilisation of the activities such as: Immune system suppression,
CC
    Activin/inhibin activity, chemotactic/chemokinetic activity, haemostatic
CC
    and thrombolytic activity, cancer diagnosis and therapy, drug screening,
CC
    assays for receptor activity, arthritis and inflammation, leukaemias and
CC
CC
    C.N.S disorders.
    Note: The sequence data for this patent did not form part of the printed
СC
CC
    specification.
XX
SQ
    Sequence
              351 AA;
 Query Match
                       41.3%; Score 840; DB 22; Length 351;
                      44.8%; Pred. No. 2.6e-75;
 Best Local Similarity
 Matches 161; Conservative 55; Mismatches 123; Indels
                                                        20;
                                                             Gaps
         14 TLLLALAALPAALAANSSGRWWGI'WNVASSTNLLTDSKSLQLVLEPSLQLLSRKQRRLIR 73
Qу
                              |: | ::| :: :
          9 SLRLLVFAVFSAAASN-----WLYLAKLSSVGSISEEETCE-----KLKGLIQRQVQMCK 58
Ob
         74 QNPGILHSVSGGLQSAVRECKWQFRNRRWNCPTAPGPHLFGKIVNRGCRETAFIFAITSA 133
QУ
            59 RNLEVMDSVRRGAQLAIEECQYQFRNRRWNCSTLDSLPVFGKVVTQGTREAAFVYAISSA 118
ďÜ
         134 GVTHSVARSCSEGSIESCTCDYRRRGPGGPDWHWGGCSDNIDFGRLFGREFVDSGEKGR - 192
Qy
            119 GVAFAVTRACSSGELEKCGCDRTVHGVSPQGFQWSGCSDNIAYGVAFSQSFVDVRERSKG 178
Db
        392 --- DIRFLMNLHNNEAGRTTVFSEMRQECKCHGMSGSCTVRTCWMRLPTLRAVGDVLRDRF- 250
QY
                2/19 ASSSPALMNLHNNEAGRKAILTHMRVECKCHUVSGSCEVKTCWRAVPPFRQVGHALKEKF 238
251 DGASKVLYGNRGSNRASRAELLRLEPEDPAHKPPSPHDLVYFEKSPNFCTYSGRLGTAGT 310
QУ
                      ||\cdot||\cdot||
                                1 1 :
                                       11:11:11:11
            111: }
                                -LVPRNAQFKPHTDEDLVYLEPSPDFCEQDMRSGVLGT 291
Db
        239 DGATEVEPRRVGSSRA-
        311 AGRACNSSSPALDGCELLCCGRGHRTRTQRVTERCNCTFHWCCHVSCRNCTHTRVLHEC 369
Çy.
             292 RGRTCNKTSKAIDGCELLCCGRGFHTAQVELAERCSCKFHWCCFVKCRQCQRLVELHTC 350
Db
```

Search completed: January 21, 2004, 10:46:46 Tob time: 46 secs